Address in Obstetrics:

THE MATERNAL MORTALITY IN CHILDBED

Delivered at the Annual Meeting of the British Medical Association at Ipswich on August 3rd, 1900,

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MR. PRESIDENT, LADIES, AND GENTLEMEN,—As the century draws to its close a retrospect is not only excusable but advisable. At such a time we naturally pause to consider the way in which we have come, how we differ from our predecessors, and what we have gained in these hundred eventful years. Periodical literature is full of such retrospects. Our modes of life, the discoveries of science, our means of locomotion, and our methods of warfare are contrasted with those of 1800, and the verdict is that in the present century a greater advance has been achieved than in all that preceded it. Medicine and surgery have shared to the full in the advances of this wonderful age, and it now falls to my lot to show how midwifery has participated in the general improvement.

In considering the history of midwifery many subjects suggest themselves which would offer ample material for an address in obstetrics. The struggle between science and nescience, as represented by medical practitioners and midwives, commenced in the sixteenth century, was fought in every civilised country with varying fortune, and continues in our own time to be a burning question. The contest between radicals and conservatives, or those who incline to operative interference and those who rely more exclusively on nature, are as fully represented amongst us here to-day as they were in the days of Levret and Smellie, of Boër and Osiander. The rise and fall of lying-in hospitals, their almost total extinction and resuscitation in our own time, have no parallel in medical history. To have closed these institutions would have been to have sealed the fountain of knowledge at its very source, yet few could deny that Simpson was actuated by the highest motives of humanity in the campaign which he carried on against them. The development of obstetrical literature, the origin and development of obstetrical and gynæcological societies, national associations, and international congresses, each and all of these would have offered ample material. I have preferred, however, a subject much more familiar and often dealt with, but at the same time of much greater importance than any other that could be chosen—namely, the maternal mortality in childbed.

THE FAILURES OF THE EARLIER PART OF THE CENTURY.

The history of midwifery is a long one, extending back to the earliest times. The Hebrew Scriptures abound in obstetrics, and midwives as a class are distinctly mentioned therein. A knowledge of the art existed amongst the Indians, the Greeks, and the Romans, and later amongst the Arabians, but scientific midwifery may be said to have commenced with Ambroise Paré in the sixteenth century. During the intervening years up to the present time it has been advanced by ardent and zealous investigators, many of whose names can never be forgotten—Mauriceau, Deventer, the Chamberlains, Levret, Baudelocque, Sir Fielding Ould, Smellie, William Hunter, Boër, Naegele, the Ramsbothams, Sir James Simpson, Matthews Duncan, Robert Barnes, and a host of others too numerous to mention. But in considering the improvement in the death-rate in childbed we need not go back many years. It did not take place gradually as the light of science slowly dawned upon our art, but occurred suddenly in the seventh decade of the present century. The observers of the past pursued their object in the face of failure little short of disaster. Their zeal and perseverance were not rewarded by success, but, on the contrary, the more famous the professor, the wider his field of observation, the greater his industry, and the more searching his investigations, the worse were his results. In the first half of the present century the mortality amongst parturient women, especially in hospitals, was probably greater than in any other period of the world's history.

THE DECLINE OF MORTALITY IN LYING-IN HOSPITALS.

Towards the close of the seventies, however, a sudden and salutary change took place. In the Paris Maternity, for example, the mortality dropped in one year from 8 per cent. to 4 per cent., and in 1881 to 1 per cent., and has since improved, and in all the hospitals of Europe a similar change occurred. As to private practice, however, I am not able to give any facts founded upon reliable statistics. Dr. Matthews Duncan in his monograph on "Mortality in Childbed" published in 1870 deliberately stated that "all attempts at ascertaining scientifically the mortality in childbed must be given up." Dr. McClintock also said about the same time, "With our great registering machinery all at work we cannot find out what is the mortality of childbed in London. For my part I think that obstetrical common sense will be well contented if the true childbed mortality of modern London is at all less than in London of 1660. It is very doubtful if it is even now as low as 1 in 107." Matthews Duncan after careful investigation agreed with McClintock that the mortality in private practice was not less than 1 in 120. His own results were 1 in 105, McClintock's results were 1 in 108, and Dr. Churchill's results were 1 in 159. In the face of such results in the hands of the best men it is idle to talk of the general mortality having been at that time 19 per 10,000. In comparing the results, therefore, of modern with ancient practice, we must confine ourselves to hospital statistics, and I have no doubt that the results in private practice are a faithful reflection, perhaps some years later, of the teaching in those institutions.

Statistics of the Rotunda Hospital.—I will take as an example for the purpose of contrast the results obtained in the Rotunda Hospital during Dr. Johnston's mastership, from 1870 to 1876, and the seven years from 1890 to 1896. I have chosen Dr. Johnston's report because it was the period immediately preceding the introduction of antiseptics and because his results were considered at the time to have been remarkably good. During the first period (from 1870 to 1876) 8092 women were delivered in the hospital, of whom 169 died, or 1 in 45·5; during the second period (from 1890 to 1896) 9085, with 50 deaths, or 1 in 181·7, showing a saving of about 200 maternal lives in every 10,000 deliveries. If we adopt the classification of the Registrar-General the deaths appear as due to:—

—	1870–1876.	1890–1896.
1. Septic infection	89·1 in 90·9	10·1 in 908·5
2. Accidents of childbirth	46·1 in 176	24·1 in 378
3. Unconnected with childbirth.	34·1 in 238	16·1 in 568

Similar results are shown by hospitals generally. It is evident, therefore, that in hospitals at least a marked improvement has taken place during the past quarter of the century in all the three groups—death from puerperal fever, accidents of labour, and other causes.

PUERPERAL FEVER OR SEPTIC INFECTION.

The greatest improvement is observable in this group, and I shall offer no apology for dwelling at length upon the way in which it has been brought about.

In the beginning of the century obstetricians were ignorant of the nature of this, the chief cause of childbed mortality, and were helpless either to prevent or to cure it. Epidemics became more frequent and more virulent; and obstetricians endeavoured by clinical observation and post-mortem examination to discover its nature; but unfortunately both these roads to knowledge were pursued by the same individuals and with disastrous results. In Paris Cruveilhier, the most illustrious of French pathologists, was appointed physician to the Maternity; he multiplied his researches and at the same time the mortality in that institution increased. Little of value was added to our knowledge by these investigations, and even in 1872 Dr. Churchill reflected the general ignorance when he published in the sixth edition of his well-known work his opinion that puerperal fever was due to mental emotion, cold, putrefaction of portions of retained placenta, gastro-enteric irritation, the state of the atmosphere, epidemic influences, and contagion. With regard to the latter he felt compelled by the evidence to admit the

possibility of its being conveyed and communicated or excited by those who had attended midwifery cases after being employed in dissection or post-mortem examination, or who were much in contact with fever patients, but in all other cases he attributed its occurrence to epidemic influence. It is pleasant to turn from this general ignorance and mark the first beams of the dawning day.

Dr. White of Manchester.—Towards the end of the last century a remarkable work on the management of pregnant and lying-in women was published by Dr. White, a surgeon practising in Manchester. In that work, published in 1791, he attributed puerperal fever to the absorption of putrid matter by the lymphatics and vessels of the womb. He arrived at this conclusion by observing the similarity, in causation and symptoms, in putrefactions occurring in other parts of the body. In chronic abscess, for example, dangerous symptoms similar to those of puerperal fever set in after it had been opened and the air had gained admission; so also in childbed, fever did not occur until after the child was born. He further observed that when a putrid wound was cleansed the symptoms abated, and that where the disease was so situated that it could be removed by amputation they entirely disappeared, and from this he concluded that absorption of putrid matter was the cause of puerperal fever. His treatment was therefore directed towards the prevention of putrefaction and the elimination of putrid matter should it have already formed. To these ends he advocated thorough ventilation, cleanliness, and drainage. Foul stagnated air, human effluvia, heat and moisture, were to be avoided. Free and even cold air should pervade the apartment, and clean linen be supplied every day. The lochia, if permitted to stagnate in the vagina, would soon become putrid, for, he said, it is well known that the mildest humours in the human body, if suffered to stagnate, become acrid as soon as the air has access to them. He therefore encouraged his patients to sit up several times a day, and even to leave their beds, so as to prevent a lodging of offending matter either in the vagina, uterus, intestines, or bladder. Perhaps the most remarkable statement in this work is the following: "I must not omit to mention," he says, "the good effects I have experienced from emollient or antiseptic injections into the uterus by means of a large ivory syringe or an elastic vegetable bottle in those cases where the lochia have become acrid or putrid, and by being absorbed into the circulation have served as a constant fomes to the disease. I have by this means known the fever much assuaged, and in many cases wholly extinguished, for though the quantity of the lochia is not to be much regarded the quality of this discharge is a matter of infinite importance." One cannot but wonder at White's independence of opinion and the general correctness of his views. He was only a provincial surgeon, yet he did not shrink from stigmatising the teaching of the obstetric world of his day "as a set of pernicious maxims and opinions, built upon ignorance and supported by prejudice and obstinacy." With truth he declared that the slightest remark drawn from real observation is of more utility than the most extensive theory of causes drawn from hypothesis alone. Ignorance, prejudice, obstinacy—these were the forces against which he combated, and, alas, in vain, nor for 50 years afterwards did another champion take the field against them—to perish in the encounter.

Ignaz Philipp Semmelweis.—That champion was Ignaz Philipp Semmelweis. With what feelings of regret and shame should we recall his name. Not long ago obstetricians in every land combined to raise a memorial to it, but during his sad life no such recognition of his virtues smoothed his thorny road. Of us it may well be said, "Your fathers killed the prophets, and ye build their sepulchres." Had they but learned of him instead of ridiculing, opposing, and neglecting him, how different would have been the history of obstetrics in the past half-century. Obstetricians would have led the van and have taught the surgeons antiseptic methods; but the contrary has been the case, and surgeons have taught us what Semmelweis strove to teach our fathers 20 years before. What an amount of human life would have thus been saved, what untold anguish and remorse might there have been avoided; but ignorance, prejudice, and obstinacy prevailed. In 1846 Semmelweis, a young man of 28, was appointed assistant to Professor Klein in the maternity department of the Vienna Hospital. Not only was his sensitive nature shocked by the fearful mortality which prevailed in the department attended by the students, but his observant mind was also struck by the more favourable results obtained in the neighbouring department reserved for the instruction of pupil midwives. Reviewing the history of the institution he found that from 1784 to 1822 the physicians connected with it performed no post-mortem examinations and that the average mortality during that period was 1·25 per cent.; from 1825 to 1833 post-mortem examinations were made and the mortality increased to 5·3 per cent. In 1839 the clinic was divided into two departments and the second was reserved for pupil midwives; the mortality in it fell at once to 2·6 per cent., whilst in the other where the students attended it increased to 9·5 per cent., and this proportion remained the same for the five succeeding years except during the years 1841 to 1843 when during an epidemic of 20 months' duration the mortality in the first department averaged 16 per cent. and at one time rose even to 31·3 per cent. At the post-mortem examination of his colleague Kollitshka who died from septic poisoning Semmelweis was so struck by the similarity between the appearances in that case and in the patients who died from puerperal fever that he concluded that the cause must be the same in both—namely, an infection from without due to the transportation of cadaveric poison by the fingers of the attendants—and he directed that before attending lying-in women they should wash their hands in a solution of chloride of lime. The mortality at once sank to 3·05 per cent. Subsequently, however, he formed the opinion that any organic substance in course of putrefaction, and especially the discharges of women with septic diseases, and even air charged with putrefactive matter, might cause fever; and from this time the hands were disinfected in every case, as well as the instruments and the materials used in cleansing the patients, and the sick were separated from the healthy. The mortality fell to 1·27 per cent. Having been defeated by the intrigues of his colleagues whose animosity he had aroused in his candidature for a professorship in Vienna, he went to Buda-Pesth, where he filled the office of senior physician to the Rochus Hospital for a period of six years, and under his administration the mortality in that institution averaged only 0·85 per cent. Having again been unsuccessful in his candidature for the professorship in Prague, he retired from practice and devoted his energies to publishing his great discovery in a work on the "Nature and Prophylaxis of Puerperal Infection." The story of Archimedes springing from his bath and rushing forth shouting "Eureka, eureka!" is a comedy in science, but the history of this man urging his great discovery upon those who received it with indifference, or hostility, and ridicule, even stopping the passers-by in the streets to impress on them the importance of life-saving truths which they would not receive—this forms a tragedy fit to make the angels weep. In these endeavours he fretted and fumed his life away, until at last reason departed and he was consigned to the lunatic asylum in Vienna, where four years later he died from septic poisoning, that very disease which he spent his life in combating. Semmelweis discovered the same truth as White had done 50 years before, that putrefaction was the cause of puerperal fever, but he added another and much more important one—namely, that the disease could be conveyed to the patient by her attendants. These two methods he termed auto- and hetero-infection.

ANTISEPTICS.

Long before Semmelweis fretted himself into insanity he might have discovered, had he had patience to observe it, that the seed which he was sowing had already taken root and would soon bear abundant fruit. Michaelis and Lange had adopted his views with success. Simpson warmly advocated them in this country and pointed out their applicability to operative surgery. The wonderful discoveries of Pasteur were published two years before his death, and these discoveries not only confirmed his views but placed them upon a firm scientific footing. Lister was already in the field in 1864 and astonished the world by the wonders of antiseptic surgery. But it was not until 1870 that antiseptic principles were applied to obstetric practice, and practically banished puerperal fever from our hospitals. Stadfeld, Bischoff, Fritsch, Schroeder, Breisky, and Lucas Championnière were the pioneers in this movement. At first Listerian methods were closely followed, but not only was the original system too cumbrous for general practice, but it was soon discovered that many of its details might with advantage be abandoned.

THE DOUCHE.

The spray was replaced by the douche, and the vagina was douched with antiseptic fluids before and after every

labour. Soon the uterus was also included in the process, and prophylactic douching reached its climax when permanent irrigation or instillation was introduced by Schücking. Soon, however, serious accidents and even deaths, the result of the douche, began to multiply. These were due to injection of air and antiseptic fluids in the veins. In some cases the uterus was perforated and poisonous fluids were injected in the peritoneal cavity, but, worst of all, the douche proved to be a cause of the very disease which it was intended to prevent. Runge described an epidemic in the Charité Hospital, Berlin, in which the mortality remained at 3·8 per cent. so long as prophylactic douching was employed, but immediately sank to 0·39 per cent. upon its abandonment. Breisky reported a similar experience. In a series of papers in the *Archiv für Gynäkologie* Professor Leopold clearly showed that by thoroughly disinfecting the external parts and avoiding unnecessary examinations far better results were obtainable than by prophylactic douching. In 1888, however, in consequence of the results of bacteriological examination of vaginal discharges he returned to vaginal douching: immediately the morbidity increased by 3 per cent. The next year he again gave up the irrigator, and this was followed by an improvement of 9 per cent. I need hardly explain that by morbidity is meant a rise of temperature even once to 100·4° F. The whole question of the value of prophylactic douching—and it can hardly be said to have been finally settled even yet, for many leading obstetricians both in this country and abroad still resort to it—resolves itself into the probability or even possibility of auto-infection. That the vaginal discharge often contains germs many of which are apparently septic or saprophytic is undeniable, but are these germs really dangerous to the patient, and can they be removed by antiseptic measures? These are the two important questions. In 1888, Winter examined the discharge in 20 women, and found 27 varieties of micro-organisms. In 50 per cent. of these women he found streptococci and various saprophytes, though in an attenuated condition. In 1890 Streffeck made a similar series of examinations, and found pathological organisms in nearly the same proportion of cases. He therefore advocated vaginal douching. Döderlein's investigations in the same direction led him to classify discharges as normal and pathological. The normal were of a creamy consistence, intensely acid in reaction, and contained usually a pure culture of an organism which he named the vaginal bacillus and to which he attributed the acidity of the discharge. The pathological discharge was of thinner consistence, often puriform in appearance, it was feebly acid, neutral, or even alkaline in reaction, and it contained a great variety of micro-organisms, some of which were dangerous. The normal discharge he discovered to be not only innocuous but actually antiseptic. From experiments he concluded that where the discharge was normal vaginal douching was unnecessary, but, on the contrary, where it was pathological a thorough disinfection of the canal was imperative. Döderlein's investigations were repeated in the same clinic in Leipsic by Krönig. In 56·8 per cent. he found the discharge to be normal and in 43·2 to be pathological, but in none of these was it either neutral or alkaline in reaction. He agreed with Döderlein as to the antiseptic properties of the normal discharge, but denied that it was due to the vaginal bacillus, and found, on the contrary, that the so-called pathological discharges which, did not contain the bacillus also possessed a similar bactericidal property. He injected cultures of the bacillus pyocyaneus, staphylococcus aureus, and even streptococcus pyogenes into the vagina and found that they were all eliminated within 24 hours. A most important observation with regard to douching was that in cases in which, after injecting the micro-organisms, he at once thoroughly scrubbed out the vagina with a 1 per cent. solution of corrosive sublimate or lysol, they had not entirely disappeared at the end of 36 hours. The douche, therefore, not only failed to dislodge them, but so altered or removed the natural discharges that for at least 12 hours the normal bactericidal action of the vagina was annihilated. The result of these investigations was that vaginal prophylactic douching was altogether abolished in the Leipsic Hospital, with the result that morbidity was thereby reduced 10 per cent.; the gravity also of the infected cases was less, so that the number of women who were detained in the hospital beyond the tenth day was reduced by one-half. Some of the most distinguished French accoucheurs whilst admitting the importance of the facts I have mentioned still adhere to the prophylactic douche and with good results, but at the same time they point out the absolute necessity for observing perfect asepsis; the external parts of the patient, the hands of the operator, the instruments, and even the water must be absolutely pure. When we remember, however, that this operation, if carried out two or three times every day, must necessarily be entrusted to a nurse I have no hesitation in saying that the preservation of perfect asepsis or anything approaching it will be found in general practice to be absolutely impossible. Where are such nurses to be found? In these countries they are certainly rare and from personal experience I feel certain that routine douching has been productive of much more harm than good.

THE HANDS OF THE ATTENDANT.

We now come to the attendant and our attention may be concentrated upon his hands. The teaching of Semmelweis and Sir James Simpson that infection is carried chiefly by the hands of attendants is now the generally accepted opinion. If I were to state that where there had been no handling there would be no septic infection I should not be very far from the truth. Leopold has clearly proved that patients who deliver themselves without any vaginal interference make better convalescences than those who have been examined even with the most scrupulous antiseptic precautions. Experience therefore proves—what bacteriological investigation would lead us to expect—that an absolutely aseptic condition of the hands cannot be ensured by any known process, and from this we learn: (1) to avoid as far as possible septic contamination; (2) to spare no pains to render our hands as innocuous as possible; and (3) to restrict local interference within the narrowest bounds. The last of these includes not only unnecessary operative interference but also needless vaginal examinations. We can limit the numbers of such examinations best by substituting for them external manipulations; and next to antiseptics I consider this to be the most important advance in modern midwifery. By whom it was introduced, or when, I know not, but its systematisation and popularity we owe to Pinard, Credé, and Leopold. In 1888 Credé wrote as follows: "Even the simplest manipulation may cause infection. It should therefore be laid down and taught as a fundamental principle that internal examination of parturient women should be altogether avoided or restricted within the narrowest possible limits; it can be very well replaced by external examination. To instruct their pupils as thoroughly as possible in this method is the present and future duty of teaching institutions."

DIAGNOSIS BY EXTERNAL EXAMINATION.

By external examination we can tell whether the woman is pregnant or not, and the period to which the pregnancy has advanced, and we can ascertain the presentation and position of the fœtus, whether it be living, dying, or dead, and whether there be one child or more in the uterus. We can also tell whether the patient is actually in labour or not, and the course and progress of the labour may be followed with accuracy. Pelvic deformity is suggested by pendulous abdomen, abnormal mobility and obliquity of the uterus, especially in primiparæ, and in the latter also, excepting hydramnios, hydrocephalic fœtus and plurality of children, all of which may be diagnosed by this method. It is an ominous sign, where labour has actually commenced, to find the head still above the brim; the way in which it enters the cavity is also characteristic. In prolonged labours danger to the mother is indicated by thickening of the upper and thinning of the lower uterine segments; the elevation of the contraction ring and the prominence of one or both round ligaments. External examination is equally useful in the third stage of labour, and its proper conduction depends upon it. The external examination then is the one chiefly to be relied upon, not only because it is safer, but also because it gives more information to the examiner, and because it is easier and more reliable. Having for many years practised the vaginal examination exclusively, I found it difficult to persuade myself of the truth of the latter assertion; but not only has my own individual experience proved to me that this is so, but in the Rotunda Hospital, where the students are obliged to write down upon the bedcards the result of each examination, I found that mistakes in diagnosis were much more frequent with the vaginal than with the abdominal method. There are two things, however, which can only be made out by vaginal examination, and these are the condition of the os uteri and a prolapse of the umbilical cord; and if for any reason, such as inexperience on the part of the

examiner or insuperable difficulties, such as very fat or rigid abdomen on the part of the patient, the results of the abdominal examination are unsatisfactory, a vaginal examination becomes necessary.

DIAGNOSIS BY INTERNAL EXAMINATION.

But before each internal examination the practitioner should remember that it is an operation never altogether devoid of risk and he should be fully persuaded in his own mind as to its necessity. For my own part I seldom examine internally more than once in the course of a natural labour, and I endeavour to do so as soon as possible after the full dilatation of the os, as indicated by the rupture of the membranes or a change in the character of the labour pains. I need not delay to describe the disinfection of the hands. Many excellent methods are in vogue, but thoroughness in carrying it out is of more importance than the selection of any particular method; at the same time in general practice it should be simple as well as efficient.

TREATMENT.

In the treatment of the disease when once established we have also made considerable advances. Local disinfection by antiseptic douching is generally employed, and the curette, abdominal section, and ablation of the infected organs have been employed with success, but are hardly in a position for a dogmatic pronouncement upon their value in an address which is not to be followed by discussion. For the same reason I shall not speak of the antistreptococcic serum, but the general treatment with which I have met most success, and which is, I believe, now most generally adopted, is that introduced by Runge in 1886, and consists in cool bathing, nourishing diet, avoidance of internal antipyretics, and free administration of alcohol.

CONCLUSION.

The subject with which I have dealt is, no doubt, lacking in novelty, and the method an elaboration of the old saying that "meddlesome midwifery is bad," but I have been urged to its consideration by the opinions expressed by Hegar, Boxall, and Cullingworth, that in private practice there has as yet been no improvement. If this be true, or even partially true, it proves that those who undertake the care of parturient women are not yet alive to the responsibilities of their calling, and I have no doubt that a faithful adherence to the principles the development of which I have briefly sketched will result in a vast saving of most valuable lives and will prevent you individually from standing—as many of us have done in the past—helpless spectators of a fatal malady which an accusing conscience whispers might have been averted.

Introductory Remarks
ON
THE PREVENTION OF INSANITY.

Delivered at the opening of the Section of Psychology at the Annual Meeting of the British Medical Association at Ipswich on August 1st, 1900,

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GENTLEMEN,—Probably few circumstances connected with insanity have stirred the public mind more in the last few years than its real or apparent increase. The question is constantly asked by people, Is it not very much on the increase? and it seems to me to be worthy of consideration by this section of the Association whether we as medical men concerned in the treatment of mental disorders are doing all we can to check what at any rate is a most serious increase in the actual numbers of the insane. As the public owes the checking of the ravages of small-pox, the notification of infectious diseases, the improved sanitary measures which have led to such a marked diminution of the death-rate, and now in all probability the successful coping with the large amount of illness due to malarial poison—to name only a very few instances—to the medical profession, so undoubtedly it will be to that profession that the public will look for guidance in what is assuredly a very serious question for the future of our population. The annual report of the Commissioners in Lunacy for the year 1898 (published in June, 1899), begins with the remark that the total number of patients under their cognisance in England and Wales on Jan. 1st, 1899, was 105,086, "being an increase on the corresponding number on Jan. 1st, 1898, of 3114, the largest annual increase we have yet had to record." The increase reported by the Commissioners had concerned all classes of patients, the private class to the extent of 2·73 per cent., the pauper class to the extent of 3·09 per cent., and the criminal class to the extent of 2 per cent. Of greater importance than the mere fact of increase is the fact that there is also an increase in the ratio of the insane to the general population, the advance being the small one of 0·4 per cent. in the private class, and of 0·59 per cent. in the pauper class. The total gives the ratio of one "officially known" lunatic to 302 individuals, as against one in 308 on Jan. 1st, 1898, and one in 337 on Jan. 1st, 1899 Attempts have been made to show that the increase is more apparent than real, that it is largely due to the accumulation of senile cases and to a diminished death-rate, and that there is no real increase of new cases; but when all is said there remain the undoubted facts that the numbers increase by leaps and bounds, that the county and borough authorities are constantly being confronted by the demand for more accommodation in county and borough asylums, that new asylums spring up as the result, and that the taxpayer has constantly to put his hand in his pocket to defray expenses. It will hardly be denied that such a condition demands that we should use every effort to diminish if possible at the source the numbers of those who thus become incapacitated either temporarily or permanently, who, if not possessing private means, become either a burden to their relatives or to the taxpayer, and who in some cases become criminals as the result of their mental disorder.

It would, of course, be quite impossible in the limits of time accorded by the rules of the Association to introductory remarks by presidents of sections to review all the causes of insanity and to cover the whole ground of their removal, but it seems to me to be profitable to draw attention to three items, viz., (1) the propagation of the race by those of insane inheritance or those who have suffered from insanity; (2) the influence of alcohol in the production of insanity and the need for preventive legislation; and (3) the causation of general paralysis by syphilis.

I.—THE PROPAGATION OF THE RACE BY PERSONS OF INSANE INHERITANCE OR WHO HAVE SUFFERED FROM INSANITY.

In Table XXV. in the report referred to above, giving the percentage of causes of insanity in patients under the cognisance of the Commissioners of Lunacy for the five years 1873–97 inclusive, hereditary influence was attributed as a cause in 20·4 per cent. of male and in 25·9 of female patients. These figures are well known to be far below what is the real proportion, and in Table XXVI., where the causes are reviewed in the two great groups of private and pauper patients, the percentages are found to be higher in the former, largely no doubt on account of the greater facilities for obtaining a history in that class; but even allowing that these figures are below the actual facts, we cannot escape from the fact that "hereditary influence" still gives the largest percentage of any of the causes enumerated by the Commissioners.

It cannot fail to be of the highest importance to the future of our race that the stock should be maintained in as healthy a condition as possible and should not be reproduced from defective individuals This is fully recognised in the case of the lower animals, but human beings have a reluctance to apply the same rules to themselves. Nevertheless there can be no doubt that if we are to hold our own in the struggle for existence with other nations it is of the highest importance that the race should not be largely reproduced by individuals whose nervous system is so unstable that it very easily gives way under those stresses which must after all occur with great frequency in the various conditions of life, but should be propagated mainly by those who are abundantly well equipped from the nervous point of view. It will, no doubt, be thought that I am only giving utterance to a truism when I say that if the race were only reproduced by those of stable nervous system and sound by inheritance our existing asylums would soon be found to be larger than the

requirements of the population. In the last half of the nineteenth century enormous strides have been made in the care and treatment of the insane. They are infinitely better housed; their bodily and mental disorders are treated more assiduously and more scientifically, committees and unofficial visitors of all sorts take a much greater interest in and a much more humane view of their condition; their pathology is minutely inquired into; they are, thanks in great measure to the Medico-Psychological Association, infinitely better nursed; and after recovery such a society as the After-Care Association busies itself in helping the friendless victim of this most painful disorder again to take his place in the world. But I submit that with all this, which is most desirable and which exhibits all those qualities of sympathy with suffering for which our nation is so justly famed, very scant attention has been given to the question how a great deal of insanity can be avoided, and to the fact that a great deal of insanity is preventable and should be prevented. The Lunacy Law has been amended in the last few years so as to make it more difficult for those who urgently need care to be placed under care, while it has rendered it more difficult for patients to be detained and more easy for them to be discharged, as if the Legislature unconsciously arrived at the conclusion that by so doing it could diminish the numbers of the insane. There certainly was an impression among some members of the community, in spite of the denial of this by the Commissioners in Lunacy who are responsible to the public for the due discharge of patients from asylums, that large numbers of persons were detained on the very slightest pretexts, and it is thought by many that this impression weighed with those who were responsible for the drafting of the present Lunacy Acts. Nevertheless the numbers increase, and I submit that there is no more important problem for the twentieth century than the possibility of diminishing the numbers of the insane by their non-production. Among the more educated classes of the community there is, judging by the fact that those specially concerned in the treatment of mental disorders are often consulted on the subject, a recognition of the fact that the presence of insanity in a family at least demands from its members some serious reflection before marriage is entered upon, and it is often in the power of medical men to give advice which may, at any rate, prevent the union of two bad stocks. A short time ago I was consulted as to the rectitude or desirability of a marriage being contracted between a lady whose father had become insane about the time of her birth and had remained chronically insane since and a gentleman whose maternal aunt had been insane for 30 years. The gentleman would not agree to marry unless he could be assured that there was no risk whatever that his proposed wife would suffer from puerperal insanity in the event of a child being born, which assurance it was manifestly impossible to give, and also unless he were assured that there would be no risk of mental disorder in any offspring, which in view of the chronic insanity on both sides it was also impossible to give. Such a case shows that at least some members of the community have their eyes open to the fact of the importance of selection. Love is, however, proverbially blind, and among the unreflecting classes of the community nothing is thought of marriage with a person of insane inheritance. Unfortunately medical men themselves, unless they have had experience in an institution for the treatment of mental disorders, are not always sufficiently alive to the dangers of the propagation of the race from defectively constituted individuals and are sometimes apt to pooh-pooh any possibilities of risk in cases in which they are consulted and to give the opinion that there is no danger in a marriage between two persons of neurotic or insane stock provided the individuals themselves are apparently sound or have been so up to that time. It is perhaps well understood that in a question of marriage between cousins where there is insanity or any serious neurosis in a common ancestor or in the two separate families the idea of marriage ought not to be entertained but it is often overlooked that danger exists in the intermarriage of members of two families not related but where there is insanity or neuroses on both sides. It is very unlikely that the legislature will ever intervene to interpose any legal bar to marriage of individuals of insane inheritance; there will continue to be "free trade" in marriage as far as the law is concerned, but public opinion will have to be educated more and more to understand the importance of not propagating from bad stocks, and it is safe to lay down as a rule that no person of direct insane inheritance ought to marry with another of direct insane or neurotic inheritance, and that even if a person of stable inheritance proposes to marry with a person of insane inheritance, this latter fact of inheritance ought to be known and stated beforehand. In many cases this is done honourably, but in other cases the fact of insane inheritance of the most direct nature is concealed, on the one hand where large property is concerned, and on the other where, perhaps, there are several marriageable daughters in a family of limited means and where it is thought that the avowal of insanity in the family will "ruin their chances" as if the chief object in life were to propagate defective individuals. In other cases concealment takes place from ignorance or carelessness. In this, as in many other things, the greatest happiness of the greatest number must be thought of rather than the happiness merely of the individual, and there is the more honour to those who have relinquished what might have been a life of happiness rather than lend themselves to the degeneration of the race. With regard to the first heading, therefore, I conclude that it is the duty of the medical profession to give sound advice to those who consult them on this matter and not to lose sight of the fact that inheritance is the largest cause of insanity as shown by statistical tables.

If, however, there is doubt as to the marriage of persons of insane inheritance, there should be little doubt as to what ought to be the course and what ought to be the advice given in the case of persons who have themselves suffered from a definite attack of insanity, and in such cases marriage ought, as a rule, to be forbidden absolutely. Deplorable cases must be familiar to the minds of all those connected with psychiatry where patients who have recovered from a severe attack of mental disorder necessitating confinement in an asylum have subsequently married and either broken down again or propagated children defective from birth or breaking down at the critical periods of life. I remember well a patient in Bethlem Hospital who had great hostility to her parents, for which for a time I could find no explanation till one day she told me that what made her most angry was the fact that her birth had occurred subsequently to an attack of insanity from which her mother had suffered. Unfortunately, marriage with a person who has been insane is sometimes contracted by those who should by their education know better. For instance, I remember a patient in Bethlem who broke down in adolescence and eventually joined the large army of chronic dements whose father was a medical man who had married one of his patients who had recovered from an attack of insanity. In another case a nurse who was familiar with mental disease married a male patient who had temporarily improved but whose symptoms returned very quickly and led to a separation and much unhappiness. Fortunately there were no children of the marriage. She had taken this step against the advice of everyone who knew the man's condition. Again, a lady who had had several attacks of maniacal excitement and had been in Bethlem Hospital in one of them, married subsequently against advice and has only recently been discharged from Bethlem again, having broken down after the birth of a child. Such marriages as these are the surest way to increase insanity, but if they are sometimes entered into with a light heart by people of the educated classes it is not surprising that the more unreflecting classes should contract them freely. In the January number of the *Journal of Mental Science* of this year a deplorable case is recorded by Dr. C. C. Easterbrook, in which a girl of insane inheritance married after a fifth attack of insanity (which attack was a puerperal one following the birth of an illegitimate child) and subsequently had two children, after the births of each of which she again broke down mentally. I have no hesitation in saying that in some way or other such a patient ought to be prevented by law from reproducing her species. In all probability nature will speedily put an end to such a bad stock, but it may be at great cost to the community first. Another case occurs to me in which a young girl who had broken down acutely after the death of her lover recovered in a few months and within a year had found another young man to marry her. The marriage was undertaken against advice and within six months after marriage she had broken down again. In such cases the popular idea is that the patient is sure to be all right when she is married and that the insanity is due to the celibacy, and medical men even have not always the strength of mind to inform the relatives

that the likelihood of insanity after childbirth, if not at any other epoch, is greater in such cases than the likelihood of stability.

A great difficulty is presented in the case of those who break down subsequently to marriage but recover, and where the woman is still of child-bearing age. It is impossible to go deeply into this matter, but it is an important question when, for instance, a woman has had puerperal insanity after the birth of her first child whether she ought further to reproduce her kind. The answer to this, in my opinion, depends largely upon whether the puerperal attack depended simply upon what may be called an accident, as, for example, some septic condition, or whether it is merely the expression of an inherited neurosis which first appears at the puerperal epoch. In the latter case one feels that it would be best that the woman should cease child-bearing; but here again it is impossible to do more than advise to that effect, the advice given being in most cases not followed. In the case of a woman who has a puerperal attack after the birth of each child there can be no doubt of the unsatisfactory nature of the children she is bringing into the world and that such a bad stock ought not further to be reproduced, but how to effect this except by advice is difficult to see. The new civil code in Germany enacts that continuing insanity of over three years in duration is a ground for divorce, but I apprehend that in this country such a measure would have no chance of being placed on the statute-book in view of the fact that recovery may take place after a longer period than that, that where there are children their position would be rendered socially unpleasant, and that marriage is "for better or worse" and that the accident of disease should not be allowed to absolve a husband of his obligations. There is no doubt, however, that some such enactment would assist in putting an end to the chance of reproducing a bad stock.

It might be thought superfluous to comment on the iniquity of a congenital imbecile being allowed to marry were it not that several cases are recorded in which this has taken place where large property is concerned and with, of course, deplorable results to the offspring. Again, marriage ought not to be permitted in the case of chronic epileptics, whether the disorder be of the nature of *petit mal* or *grand mal*.

II.—THE INFLUENCE OF ALCOHOL IN THE PRODUCTION OF INSANITY.

Next to heredity alcohol figures most largely in the causes of insanity given in the Commissioners' tables, accounting for 22 per cent. of the male and 9·1 per cent. of the female cases. This refers to the effect of alcohol on the individual alone and takes no note of alcoholic inheritance as leading to the production of insanity, idiocy, alcoholism, hysteria, epilepsy, or other neuroses in the offspring, though it is well known to act in this way. This large percentage of what may well be looked upon as a preventable cause of insanity ought to give the Legislature profound heart-searching as to whether it is doing its duty to the community in checking the ravages of this destructive poison. I shall not be contradicted when I say that the percentages above quoted do not represent anything like the real amount of damage which is done to the nervous systems of the community by alcoholic excess. In addition to the actual numbers who are sufficiently poisoned by alcohol to be certified as insane, there are large numbers of individuals who are from time to time dangerously unsound, it may be for a few hours or a few days, who are the terror of their relatives, who form a large proportion of the cases at police-courts, and who ruin themselves in health and fortune. And those who have had charge of the insane will agree with me that the cases of mental disorder due to alcohol are among the most difficult to manage, the most hostile and litigious, and after recovery very often the most ungrateful of any patients with whom we have to do. No doubt in many cases the alcoholic is a person who starts life with an unstable nervous system; he has either an alcoholic or an insane or a neurotic inheritance, and to a certain extent he is defective *ab initio* in self-control and goes without much resistance into the paths of chronic alcoholism, but at present the Legislature has given him no assistance. The facilities for drinking are enormous and the revenue of the country largely depends upon the quantity of alcohol consumed.

As long ago as 1893[1] a memorial signed by many members of the medical profession urging the enactment of compulsory detention for inebriates was presented to a Departmental Committee appointed by the Home Office, but the only outcome of movement in that direction has been the Inebriates Act of 1898, upon which Mr. Wood Renton[2] remarks: "The first point that calls for observation is that in spite of the unanimous demand for them on the part of every Parliamentary Committee that has inquired into the subject during the last quarter of a century ..... no powers for the compulsory committal of non-criminal inebriates have been brought into existence by the new statute." The new powers for dealing with criminal inebriates, moreover, have been almost a dead letter in consequence of the supineness of local authorities, though it is satisfactory to see that the London County Council is at last alive to its responsibilities in this respect. The report of the Royal Commission appointed to inquire into the operation and administration of the laws relating to the sale of intoxicating drinks, published in 1899, recommends that simple drunkenness should render an individual liable to arrest, that it should be penal to serve habitual drunkards with liquor, and that habitual drunkenness should be treated as "persistent cruelty," entitling a wife or husband to separation or protection for herself, himself, or the children. Unfortunately, however, the present Government seems disinclined to take the subject in hand. That such protection is frequently needed by the relatives of those who become maniacal from drink is undoubted, and there are few histories more sad than those told by the wives of the alcoholic insane, in which for a long time before it has become necessary to take steps under the Lunacy Acts there has frequently been recurring excitement, brutality, and danger to wife and children, with gradually increasing poverty and loss of social position. In a note on the report in the *Journal of Mental Science* for January, 1900, the following remarks are made: "The Commission does not seem to have troubled itself with statistics with regard to the share of intoxicants in the production of mental disease." There need have been no difficulty in this respect, as it is only necessary to look at the tables in the reports of the Commissioners in Lunacy, or in any asylum report, to see that between one-fourth and one-fifth of the male cases of insanity admitted annually to asylums are attributed to alcohol. Dr. T. S. Clouston, in the report of the Morningside Asylum for 1899, speaks of alcoholic excess having been the cause of insanity in 25 per cent. of the cases admitted. He remarks that few persons who had had an opportunity of studying the effect of alcohol on the brain would not heartily approve of most of the recommendations of Lord Peel's Commission. The Inebriates Act of 1898, he points out, has done very little good, and if there is to be legislation on the subject it should be effective. Even those who hold the liberty of the subject so sacred as to wish to leave the alcoholic to drink himself to organic disease or insanity and his family to poverty might at least turn their attention to the fact that nearly a quarter of the insane are so, either wholly or in part, from a preventable cause, and that in a large proportion of these cases the ratepayer has to bear the expense.

Closely related to this subject is the question of the relation of suicide to alcoholism. In a paper by Dr. W. C. Sullivan, deputy medical officer of Her Majesty's Prison, Pentonville, in the April number of the *Journal of Mental Science*, attention is drawn to the increase of suicide and of suicidal attempts concurrently with recent increase of alcoholism. He points out that the recent increase of suicide has coincided with a considerable increase of abortive suicidal attempts which have approximated to the type of alcoholic suicide in being more impulsive, more related to organic conditions in the individual, and occurring at an earlier average age than suicide from other causes. If his views be correct it is evident that alcohol is thus responsible for the loss to the community of many valuable lives in the period of early adult life. I hold, therefore, that it is our duty as medical men concerned with the care of the insane to point out, amid all the outcry about the increase of insanity, that with regard to alcohol at least there should be an opportunity, with proper legislation, of preventing a good deal of insanity, and that this Association should continue to urge the necessity of further legislation to check the ravages of that seductive but destructive poison.

III.—THE CAUSATION OF GENERAL PARALYSIS BY SYPHILIS.

There can, I think, be very little opposition now to the statement that acquired syphilis is one of the most potent

[1] Journal of Mental Science, April,

[2] Ibid., April, 1899.

predisposing causes of general paralysis. While some observers hold that in every case of general paralysis, if the history be carefully taken, some evidence of syphilis will be found, the great majority recognise at least that even if a history of syphilis cannot always be obtained at any rate such a history is to be found in cases of general paralysis very much more frequently than in any other forms of mental disease. I intend to regard this preponderance of a history of syphilis in cases of general paralysis as an established fact and to lay down the proposition that if there were no syphilis there would be very little general paralysis. According to the report of the Commissioners in Lunacy for 1898 the yearly average number of general paralytics admitted to asylums, hospitals, and licensed houses amounted to 13·1 per cent. of the male cases and 2·8 per cent. of the female cases (Table XXIII.), while general paralysis was the cause of death in 1057 males out of a total of 4065, or more than one-fourth of the total male deaths, and in 265 females out of a total of 3513. Evidently in males at least general paralysis is a most serious cause of death in asylums, and moreover it kills those chiefly who are in the prime of life. It is, therefore, most important that no stone should be left unturned to stay this waste of life. It is well known that general paralysis occurs most frequently in towns where syphilis, alcohol, and fast living are most rife, and no doubt one of the most important measures is to train the dwellers in towns in habits of self-control and to teach them to lead physiological lives; but there seems no reason why the Legislature should not take some steps to check the spread of such a potent poison to the nervous system as syphilis as it has already done in the case of the infectious fevers. It was formerly held that the general paralytic did not transmit the disease to his children, but in the last few years many cases have been recorded of "juvenile general paralysis," in practically all of which there had been found to be a history of parental syphilis,[3] and in many of these cases the father had previously died from general paralysis. It cannot be said, therefore, that the syphilitic general paralytic is not a danger to his offspring, and so a further waste of valuable lives takes place. In my opinion, if syphilis were made a notifiable disease and the chances of its spread diminished, we should see a corresponding diminution in the number of cases of general paralysis. I am well aware that any suggestion to control syphilis, or in fact any venereal disease, by legislation meets with opposition from a section of the community, but it is well to refer to the fact that in Finland, as the result of the hospital treatment of syphilis and the power given by the Legislature enabling the compulsory examination of any suspected individual, syphilis has much diminished in the course of 20 years, that congenital syphilis has become less frequent, and that both the hereditary and acquired forms have become of much milder type.[4] Dr. Drysdale,[5] in a paper on the "Norwegian Bill for the Prevention of Venereal Diseases," calls attention to the existing law in that country requiring practitioners to notify the existence of any case of venereal disease to the medical officer of health but without giving the name of the patient, and suggests that such simple notification would at least "for the first time in the history of these contagions, afford a basis for calculation of the extent to which they prevail among the population of the United Kingdom." He further says: "Eventually I believe that the danger to public health caused by these extremely prevalent contagions will result in punishment of persons who, knowing themselves to be infected, carelessly, or even without any compunction, are heartless enough to put themselves in the way of infecting other persons with their contagion." In my opinion general paralysis should be looked upon as a preventable disease, and I feel strongly convinced that were syphilis controlled this truly malignant degenerative disease of the nervous system, which at present seems to defy all treatment, which adds so largely to the deaths in asylums, which mainly affects men in the prime of life, and which may also affect their children by means of hereditary syphilis, would to a great extent disappear. In all probability, however, the public mind is not prepared for any legislation on the subject.

I have merely attempted to call attention briefly to what I consider to be preventable causes of insanity, and of the importance of prevention rather than cure I think there can be no doubt. Whether the ensuing century will be marked by an arrest of insanity at its sources is, however, a matter on which we cannot speak with any certainty, but it seems to me to be the direction in which our efforts should tend.

[3] Mott: On Twenty-two Cases of Juvenile General Paralysis, Archives of Neurology.
[4] Brit. Med. Jour., March 10th, 1900.
[5] Ibid., Feb. 3rd, 1900.

THE REMOTE RESULTS OF STRUCTURAL LESIONS ("INTERVENTIONS SANGLANTES") IN URETHRO-STENOSIS.[1]

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I HAVE been asked to report to this Congress on the remote effects of structural lesions (*interventions sanglantes*) employed in the treatment of stricture of the urethra. I think it will be generally admitted that these results are mainly determined by the nature of the wound and the circumstances under which it healed. For instance, incised and contused wounds and wounds that heal without any or with much inflammation, or with little or no provision for drainage, may be expected to yield different results. For this happens in all parts of the body. But in estimating the results of structural lesions of the urethra we must never lose sight of the fact that this canal conveys for several inches, at varying intervals, a compound and complex fluid which, under certain conditions not very clearly defined, is capable of exercising a highly poisonous effect on the tissues and fluids of the body with which it may accidentally come in contact. This is evidenced by the frequency of rigors and fever not unlike a malaria after slight lesions, such as passing a catheter or dividing a stricture, by the sudden suppression of urine which is sometimes similarly occasioned, by the happening of serious, if not fatal, septicæmia later, and more remotely by the formation of a contractile scar at and about the seat of the wound. Surely we may say that the pathology of the urethra is a unique one.

To compare their results it will be necessary to define with some accuracy the kinds of wounds that preceded and their probable process of healing. For the purposes of this report the following varieties have been examined and carefully studied both during life and, as opportunity offered, after death: (1) lacerated or contused wounds as follow such methods of divulsion as were practised by Perrève[2] in Paris and Holt[3] in London; (2) incised wounds from within the urethra as illustrated by Maissonneuve's[4] and other kinds of internal urethrotomy; and (3) incised wounds from without inwards as described by Syme[5] of Edinburgh under the name of "external urethrotomy" or perineal section.

1. Wounds inflicted by instruments for rapidly causing divulsion or rupture of a stricture are usually of a contused or lacerated character. When thus employed, unless the stricture is an annular or a ring-like one, a condition which is rare, the canal usually gives way at a point in its circumference where the resistance is least, and this is naturally not the densest portion of the contraction. Hence these operation wounds heal not unlike accidental lacerations of the urethra from injury, and in both instances the liability to stricture and to its recurrence is considerable. This was found to be so in cases examined both during life and after death and repeated operations by divulsion appear to have been followed by additions to the amount of contractile scar-tissue at or about the seat of stricture. There is, however, a form of stricture where divulsion is not open to these objections as judged by its more remote effects. Reference is here made to what are known as peri-urethral or sub-mucous strictures. My attention was first called to them some years ago by examining a patient who died from some other cause shortly after (within a week) a tight stricture in the deep urethra had been

[1] A paper read before the Thirteenth International Congress of Medicine in Paris on August 8th, 1900.
[2] Traité des Retrecissements Organiques de l'Urètre. Emploi Methodique des Dilateurs Mécanique dans le Traitement de ces Maladies, Paris, 1847.
[3] On the Immediate Treatment of Stricture, London, 1861.
[4] L'Urethrotomie Interne, Paris, 1879.
[5] On the Treatment of Strictures by External Incision, 1851.

divulsed by Holt's method. The stricture was found to be peri-urethral and it thus compressed the mucous coat as a ligature round it would do. The effects of the divulsion had been to rupture the fibres of the stricture whilst it left the mucous lining almost intact. Mr. Christopher Heath [6] has also recorded a similar observation. I am inclined to think that the consequence of its casual application to this class of cases and the excellence of the results was that Holt's operation attained a position regarding the treatment of strictures generally which it hardly appears to have merited. No better result relative to the permanency of the cure can be desired than this and if it were possible to limit divulsion to peri-urethral strictures I believe this operation would still be frequently employed. I have examined several urethras many years after Holt's operation had been performed where the canal had maintained its full measurements and no trace of a lesion of the mucous membrane could be found. We may claim these as instances of the successful treatment of stricture by subcutaneous, or rather submucous, methods.

2. The remote effects following internal urethrotomy are of a variable character, arising mainly from the nature of the cicatrix or scar-tissue that follows the operation. In some instances I found from examination after death several years afterwards that no signs of the original stricture were discoverable either in the mucous membrane itself or in the submucosa. As far as I could ascertain the incision made by the urethrotome had soundly healed without leaving any mark or contraction. As illustrating this class of cases I will select one that has recently come under my observation where the previous history was well authenticated throughout. It was that of a man, aged 53 years, whom I saw in February, 1900. He was operated upon in 1883 by the late Mr. Berkeley Hill for a stricture in the deep urethra which would only then admit a filiform bougie. Internal urethrotomy was performed. I saw and examined this patient with Mr. C. B. Lockwood, who had been personally aquainted with him throughout. I could find no evidence of stricture. The patient had ceased to use a bougie for some years. There could be no question that this man had been permanently cured by the operation.

On the other hand, the majority of instances examined showed in varying degrees that a tendency to relapse occurred within a few weeks or months after the operation, even where patients had endeavoured to prevent this by the use of a bougie. In these, for the most part, there were signs that the wound inflicted had probably been an irregular or jagged one, more resembling a lacerated wound than an incised one, and not what would be expected from a well-constructed urethrotome. Further, the resulting cicatrix often presented an appearance not unlike what happens after a burn of the second or third degree, or as I have seen following electrolysis for stricture.

In some instances of recurrence after internal urethrotomy it was apparent that this operation had only partly divided the stricture. From the evidence that was afforded by this class of cases it was concluded that the combination of partial incision of a stricture by internal urethrotomy, followed immediately by stretching of the wound thus made by divulsion or bougies, did not yield good permanent results. It was in some of these cases that recurrence took place most speedily and in an aggravated form.

3. The third group of cases examined were those where the stricture was divided from without inwards on a grooved staff in accordance with Syme's description of external urethrotomy or perineal section. In several instances where this operation had been practised some years previously I found no recurrence had occurred, though the use of a bougie had practically been discontinued. I have recorded [7] a case where a patient, aged 46 years, had been operated upon by external urethrotomy for stricture and urinary fistulæ by a former colleague of mine in 1867. He died 18 years afterwards, and on examining his urethra I could find no sign of stricture. The dimensions of the canal along the line where the section had been made were larger than the rest. The patient had not been in the habit of using a bougie since the operation.

It will not be necessary further to illustrate the permanent advantages that have followed perineal section in some cases of urethral stricture. In restoring and preserving the normal dimensions of the canal and in rendering catheterism easy where previously it was difficult its advantages must be apparent in cases to which it is applicable, and these include some of the worst varieties of stricture. If performed without a guide the prospect of a good result is very small. Where practised successfully it was not easy to determine how much of the permanent good that resulted was due to the complete division of the stricture and how much to the drainage which the external wound provided; but it seemed probable that both contributed to this end.

Taken as a whole, these investigations support a conclusion that most strictures treated in the three ways referred to, showed a tendency to re-contraction in varying degrees. In some this liability was easily counteracted by the use of bougies after the operation, though practically it could not be said that there was any time limit to this expedient. In others the tendency to relapse was so rapid and strong as to require repeated operations to maintain the dimensions of the canal, or even to necessitate the formation of a urinary fistula in place of the urethra. In a few instances, after rapid divulsion, internal urethrotomy, and perineal section or external urethrotomy, the evidence was conclusive that a permanent cure had resulted, and in such cases the subsequent use of a bougie appeared precautionary rather than necessary. It must, however, be stated that, compared with the large number of stricture cases which were investigated for this purpose, and where the observations extended over a considerable number of years under favourable circumstances for conducting such an inquiry, the instances last mentioned were rare. These conclusions will, I think, correspond with the experience of most surgeons.

I take it that the object of this report is not merely to reiterate a foregone conclusion but to explain, if possible, how these variations may have happened, and how both good and indifferent results may alike contribute to advance knowledge in connexion with this subject. In examining the lesions thus made for the treatment of certain forms of stricture by urethrotomy, and I include both varieties of operation under this term, it was evident that some of them had been faulty in their application and in their construction relative to the process of healing which would follow. In a few instances appearances indicated that the incision or incisions had not been accurately applied to the constriction, that the urethrotome had lacerated rather than cut, that several wounds had been made in various directions, and thus by scar-tissue the obstruction was rather added to than lessened by what had been done. This was probably directly due to faulty instruments in the case of internal urethrotomy and to want of precision and completeness in carrying out the details of perineal section. Though some failures may be accounted for in these ways, more were evidently due to the conditions under which healing proceeded after the operation. Many of the incisions that were made for the purposes of internal urethrotomy were inadequately provided with means for proper drainage, having regard to their extent, whilst some cases of perineal section or external urethrotomy were hardly any better off in this respect.

About the time I commenced to make these observations on a somewhat extended scale internal urethrotomy was being practised with a very free hand. The late Professor Otis of New York had recently formulated his views relative to the male urethra which to some extent were responsible for this. Though fully recognising the value of his work in demonstrating the greater capacity of the male urethra and the important influence that this had on the new lithotrity or litholapaxy which Bigelow was developing in the wake of Otis's investigations, I could not follow him in the practical application of it, in its entirety, to the treatment of stricture. However, it tended in the direction of increasing the range of internal urethrotomy as well as the size of the wounds thus made, but I cannot say that it proportionately added to the number of cures in chronic stricture of the deep urethra. It struck me in examining cases which had been thus operated on some years previously by various surgeons where the stricture had recurred that the size or depth of the wound so made was out of proportion to the facilities for drainage, whilst healing was going on, which the urethra alone afforded. In the absence of the latter condition I recognised one reason for the contractile condition of the scar that resulted. In arriving at this conclusion I was much influenced by what I had observed in connexion with the treatment of accidental lacerations of the deep urethra by perineal incision and drainage.

It may be generally stated that the worst forms of strictures are those following laceration of the urethra, and considering the circumstances under which such lesions usually heal this is not to be wondered at. Repair goes on slowly under the

[6] Brit. Med. Jour., July 17th, 1869.
[7] Surgical Disorders of the Urinary Organs, fourth edition, p. 100.

irritating influence of constant contact with confined urine, and excessive exudation about the seat of the wound takes place. This eventually, in conjunction with the irregularity caused by the wound, forms a stricture of the closest and most contractile character. On the other hand, in cases where perineal section and drainage were applied, this either did not happen at all or to a much more limited extent. In some instances where this principle was adopted in the case of ruptures of the deep urethra, healing took place just as kindly as it usually does after a median cystotomy, and no stricture followed. This I proved in many instances. It seemed reasonable to conclude that the treatment of stricture by section, or division of the stricture, might be improved by providing better drainage for urine and the discharges from a wound which can only be imperfectly treated antiseptically.

I am not aware that the influence of urine-drainage and irrigation in relation to the healing of wounds of the urethra and the kind of scar-tissue that results have ever been adequately discussed in connexion with the operative treatment of urethral stricture. With the view of meeting what I consider to be causes of failure and recurrence following some operations, I published[8] a series of cases and observations where I had combined the principles of internal and external urethrotomy in the treatment of certain forms of urethral stricture which on the whole have afforded good results. I shall best illustrate this practice by a typical case which was recorded and watched for a considerable number of years.

A man, aged 51 years, whom I saw and operated upon in 1890, had been the subject of a stricture with a strong tendency to contract for some years, and had undergone no less than six operations for it, including a divulsion by Holt's method, and five internal urethrotomies at various intervals and places. For some months before I saw him the stricture had been contracting and closing in spite of the patient's well-directed efforts with suitable bougies to keep it open. Straining to urinate was constant and prevented continuous sleep, and there was some cystitis with probably pyelitis. I performed an internal urethrotomy with Teevan's modification of Maissonneuve's instrument, as I thought that the latter might not stand the strain put upon it by the cartilaginous character of the tissues which had to be divided. This being done I passed a full-sized grooved staff (No. 12 English) into the bladder. As the staff was evidently gripped in the deep urethra the patient was placed in the lithotomy position and I divided in the median line from without inwards such contracted tissues as remained. I thus opened the urethra and found by passing my finger first into the bladder and then hooking it forwards along the urethra in the direction of the penile orifice that the walls of the canal had now been rendered free and unresisting. A full-sized gum-elastic drainage-tube such as I have elsewhere described[9] was passed into the bladder through the wound and retained. The parts were washed out with a solution of perchloride of mercury (1 in 6000). The stiff drainage-tube was withdrawn on the sixth day and a soft rubber one fitted with a tap for the voluntary withdrawal of urine was substituted which was worn for a fortnight longer and then finally removed, when the wound soon healed. Ten years have now elapsed since this operation was practised. The patient remains in good health and suffers no further inconvenience from his urinary organs than having occasionally to pass a full-sized bougie for himself.

It may be thought that the retention of a catheter in the bladder for some time after an internal urethrotomy has been practised is to be preferred to an external urethrotomy, and a perineal tube for drainage alone. In some instances the former may suffice, but in the majority of cases where a urethrotomy becomes necessary it will be found an imperfect substitute. The mechanism for the retention of a catheter along the whole length of the urethra and the irritation it excites are often obstacles to the successful employment of this expedient.

The conclusions arrived at from the examination of structural lesions used in the treatment of urethral strictures as detailed in the foregoing remarks may be summed up as follows.

1. That there is evidence to show that in peri-urethral strictures of the deep urethra the effects of divulsion as practised in Perrève's and Holt's operations may be limited to rupturing the dense stricture bands in the submucosa of the urethra, whilst the mucous membrane itself escapes any serious injury or laceration and is merely restored by stretching to its original dimensions. Here a permanent cure may result. On the other hand, where the mucous membrane is in itself the seat of stricture and forms part of the latter structurally it is necessarily torn or lacerated by the process of a sudden divulsion, and the pathological condition consequently becomes assimilated with that of traumatisms of the urethra from external violence accidentally applied which are followed by strictures of the most contractile and recurrent form.

2. That there is evidence to indicate that where the entire thickness of a stricture can be included within an incision of moderate dimensions made by an internal urethrotome the normal calibre of the urethra may be completely and permanently restored. Where this happens it may be concluded that all the fibres of contraction constituting the stricture were divided at the time of operation. And further that the converse is equally true. There is also evidence to show that the absence of recurrence under such circumstances is not necessarily dependent on the use of a bougie, though the latter is a precautionary measure which should invariably be advised.

3. That in the case of multiple strictures or strictures of the deep urethra of considerable dimensions either in their length or thickness treated by an internal incision of corresponding proportions, apart from other considerations, the tendency to recontraction and recurrence, with an additional amount of cicatricial material, is frequent; the latter being probably due to the circumstances under which healing takes place in wounds of these dimensions so situated.

4. That lesions of the urethra demonstrate in various ways the poisonous effects that unprotected and confined urine is capable of exercising both on the body generally and on the tissues in contact with it, and that the liability to such effects is greatly diminished where drainage and irrigation render these conditions of the urine unlikely.

5. That in the case of recurring strictures previously treated by incision and in primary strictures of such length or extent as to require an internal section of a corresponding size, or as to which there might be doubt as to whether it would be safely possible so to include them, for the purposes of the operation and its results such wounds should be made with due regard to other surgical principles in addition to the one pertaining to the division of the contraction.

6. That there is direct evidence to show that the tendency to recontraction and recurrence of stricture after internal urethrotomy is largely diminished by the concurrent employment of systematic and efficient urine and wound drainage such as the combination of external urethrotomy, or perineal puncture, affords.

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[8] Brit. Med. Jour., July 18th, 1885. [9] Op. cit.

THE INDICATIONS OF THYROTOMY.[1]

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WHILST it is in the nature of things that thyrotomy can never be an everyday operation, it cannot be gainsaid, I think, that hitherto it has additionally been anything but a popular one. The reasons of this are not far to seek. Previously to the invention of the laryngoscope the indications of opening the larynx were so very obscure that the number of thyrotomies known to have been performed in pre-laryngoscopic times is exceedingly small.[2] When with the introduction of the laryngoscope a period of greater activity and wider applicability seemed to be in store for thyrotomy a very formidable rival to it arose almost immediately in the shape of intra-laryngeal surgery. This rival vigorously, and on the whole victoriously, contested the

[1] A paper read before the Thirteenth International Medical Congress in Paris.

[2] With regard to the history of the operation, and indeed with regard to all details concerning the operation itself upon which I am unable in the limited time at my disposal to enter, I would refer to the excellent monograph on Laryngotomie written by Professor Max Schüller of Greifswald in Billroth and Luecke's Deutsche Chirurgie (Stuttgart, Ferdinand Henke, 1880).

propriety of the external operation with regard to two of its most important indications—viz., the removal of foreign bodies and the removal of benign new growths from the larynx—and succeeded in limiting its performance in these classes of cases to a very insignificant number. Shortly afterwards another of the most important indications of thyrotomy—its performance in cases of malignant disease of the larynx—was strongly assailed by Professor Paul Bruns in his well-known monograph, "Die Laryngotomie zur Entfernung endolaryngealer Neubildungen."[3] The conclusions which he drew from the statistical survey of the thyrotomies which had until then been performed for the removal of cancer and sarcoma were so convincing and at the same time so adverse to the performance of the operation that they were tantamount to its complete condemnation in cases of that sort. Only quite recently has the operation begun to recover its position. At present an era of far greater usefulness is, I believe, dawning for it, particularly in certain cases of malignant disease of the larynx. I shall be glad if the proposals which I am going to make and the discussion which will follow should contribute towards that goal.

Two short remarks are required before I enter upon my subject proper. 1. In discussing nowadays the "indications of thyrotomy" it is imperatively required to discard from one's mind antiquated notions about its dangers and drawbacks. The number of improvements in the technique of the operation itself and of its after-treatment, on which my friend and co-reporter, Professor Dr. Schmiegelow, will no doubt dwell in his introductory remarks, have done away with many of the objections which only 12 years ago were justified enough. It is therefore possible at present to recommend the performance of thyrotomy under circumstances in which in previous times such recommendation would have been unjustifiable. 2. In speaking of the "indications of thyrotomy" it must always be kept in mind that, with a few exceptions, the indications of this operation are not *compulsory* but merely *facultative*. In other words, in the great majority of circumstances in which the performance of thyrotomy comes into question other means of dealing with the case in question may be substituted.

The indications, then, which at the present stage of our knowledge present themselves to my mind for the performance of thyrotomy are: (1) foreign bodies in the larynx; (2) injuries to the larynx; (3) laryngocele; (4) stenosis of the larynx; (5) acute laryngeal perichondritis; (6) laryngeal tuberculosis (including lupus); (7) scleroma of the larynx; and (9) new growths in the larynx—(*a*) benign, and (*b*) malignant.

1. *Foreign bodies in the larynx.*—I do not think that there will be much divergence of opinion as to the mode of procedure in the event of a foreign body having been impacted in the larynx. Should the foreign body be comparatively small, not too angular, not possess many sharp hooks and edges, and not cause any respiratory difficulty, everybody nowadays will probably in the first place attempt to remove it *per vias naturales*. Should this be impossible on account of the size or the form of the foreign body, or of its firm impaction in the soft laryngeal tissues which might lead to their being lacerated in the event of forcible intra-laryngeal removal, or should œdema or considerable dyspnœa be present, either tracheotomy ought to be performed and an attempt be made to dislodge the foreign body from the tracheotomy wound, or subsequent intra-laryngeal attempts at removal might be made, or finally, thyrotomy might be at once performed. In this question no dogmatic rule can be laid down; every individual case must be treated on its own merits. There is one point, however, with regard to which a note of special warning must be sounded. Under no circumstances is it advisable to allow a foreign body to remain impacted in the larynx for any length of time even if at first it does not produce any serious symptoms. I have seen and recorded several cases in which a neglect of that kind led either to perichondritis, ankylosis of the crico-arytænoid articulations and lasting disablement of the organ, or to the sudden dislodgment of the foreign body and its entrance into the lower food and air passages, with serious consequences resulting.[4] Considering that thyrotomy in a healthy person is at present an operation of but small risk I should not now, if my attempts at intra-laryngeal removal failed or if the case from the first were not suitable for this method, hesitate to perform thyrotomy with or without preliminary tracheotomy according to the special requirements of the case.

2. *Injuries to the larynx.*—In cases of severe fracture of the larynx, bullet-wounds, or suicidal injuries it has been repeatedly proposed to perform thyrotomy in order to replace the dislocated fragments, and, if necessary, to retain them in position by a tube introduced either through the mouth or from the tracheotomical opening. The reasonableness of this indication cannot be doubted, and the operation has been performed in a few cases with excellent results, but the indication, needless to say, is likely always to remain a rare one.

3. *Laryngocele.*—Laryngeal air-cysts, themselves extremely rare, still more rarely cause serious symptoms. In a case described by Benda and Borchert,[5] however, sudden inflation of a laryngocele ventricularis caused death by asphyxia. Should the symptoms, therefore, be threatening, thyrotomy followed by extirpation of the cyst would be indicated, as already successfully practised by Ledderhose.[6]

4. *Thyrotomy in stenosis of the larynx.*—It is likely that thyrotomy will be performed more frequently in cases of stenosis of the larynx than hitherto when once the still prevailing impression has been corrected that thyrotomy is a risky and difficult operation. Any of the manifold causes of stenosis of the larynx—cicatricial contraction from ulceration of the mucous membrane; perichondritis, particularly of syphilitic origin; hyperplastic inflammatory processes; congenital webs; adhesions between the vocal cords, ventricular bands, or other parts of the larynx, from external wounds, scalding, syphilis, typhoid fever, and a host of similar causes—may produce considerable narrowing, or even complete obliteration of the larynx. A number of these conditions will be, no doubt, accessible to intra-laryngeal surgery. In another class intubation by either Schrötter's or O'Dwyer's tubes, when patiently used, will be productive of excellent results; but a number of cases will remain in which neither of these two methods can be made use of at all or in which, for external reasons, it is impossible to continue it for a sufficiently long time to prevent re-formation of the narrowing, a contingency which, it is well known, is unfortunately but too frequent. It is in this class of cases that I think there is a future for thyrotomy. Particularly in cases of hypertrophic stenosis, with enormous fibroid thickening of the mucous membrane, excellent results may be obtained, as I have twice seen in cases operated upon by this method in St. Thomas's Hospital by thyrotomy and bold excision of the hypertrophic masses. Hitherto such cases have remained either entirely unrelieved, the patient having to wear a tracheal cannula for the rest of his life and his voice being reduced to an almost inaudible whisper, or patients have had to undergo an intubation treatment extending over many months with the penalty attached to it that even a short interruption threw them back to the very beginning. Thyrotomy in suitable cases undoubtedly relieves more quickly, but here again I need not say that I do not recommend a wholesale performance of the external operation, but think it must be left in every individual case to the judgment of the medical attendant which method—intra-laryngeal operation, intubation, or thyrotomy—is most likely to lead to a satisfactory result. It also ought to be clearly understood that in some cases of great fibroid obstruction of the interior of the larynx, particularly of syphilitic origin, even if the result of thyrotomy at first be all that can be desired, occasionally renewed thickening takes place, sometimes after the lapse of a year or more. A case of this kind was recently shown by Mr. Spencer before the Laryngological Society of London.[7]

5. *Acute laryngeal perichondritis.*—The indications for thyrotomy in acute laryngeal perichondritis, in spite of Schüller's warm recommendation,[8] have never been generally accepted and are likely to remain extremely rare. According to Schüller, thyrotomy ought to be performed already in the first stage as well as in the further course of perichondritis in order to treat the perichondritis itself through the laryngotomical opening in a suitable manner—i.e., by

[3] Berlin, Aug. Hirschwald, 1878.

[4] Some Practical Remarks on Foreign Bodies in the Upper Air and Food Passages and on the Principles of their Removal, Medical Chronicle, April, 1888.

[5] Laryngocele ventricularis als Todesursache, Berliner Klinische Wochenschrift, 1897.

[6] Laryngotomie wegen intralaryngealer Luftcyste, Deutsche Zeitschrift für Chirurgie, xxix., p. 4, 1889.

[7] Proceedings of the Laryngological Society of London, 1900, p. 62.

[8] Deutsche Chirurgie, von Billroth und Leucke, 1880, Lieferung 37, p. 153.

incision, extraction of necrotic parts of cartilage, and aseptic treatment of the perichondritic abscess. Unfortunately, it is very difficult, and likely to remain so, in many cases of acute perichondritis to say definitely which cartilage is the actually diseased one, and the fear of producing by the performance of thyrotomy additional undesirable complications is more than a theoretical one. Occasionally, however, as in a case of my own,[9] real good may accrue from thyrotomy being resorted to in time in acute laryngeal perichondritis, and its performance in this class of cases deserves, I think, to be more frequently thought of than apparently it is at present.

6. *Laryngeal tuberculosis (including lupus).*—Of late years thyrotomy has been repeatedly performed in cases of laryngeal tuberculosis, and Dr. Goris, who has probably paid more attention to this subject than anybody else, has formulated its indications as follows.[10] "Thyrotomy," he thinks, "is optional in circumscript lesions, and even preferable in tubercular patients whose general state of nutrition is good, even if their lungs should be much affected. It is not desirable in tubercular patients, whose state of health is bad, or whose whole larynx is deeply affected." Undoubtedly cases occur in which intra-laryngeal surgery does not succeed in removing by curetting or similar proceedings even circumscript laryngeal tuberculous lesions, because they are not favourably situated for intra-laryngeal interference. In such cases if the general state of health be good thyrotomy would be entirely legitimate and, as Dr. Goris's results and one obtained by myself show, laryngeal lesions in such cases may be lastingly cured by that operation. There is, however, one very serious drawback to the employment of thyrotomy in this class of cases which ought to be before the mind of every operator—viz., the danger of tuberculous infection of the wound. In my own case just referred to, in which I performed thyrotomy, the laryngeal lesion was quite cured after thyrotomy had been performed, the ulcerating surface removed, its bottom scraped, and pure lactic acid applied, and the cure remains permanent now—i.e., fully three years after the operation. But this satisfactory result was at first greatly marred by the external wound becoming tuberculous and fistulous tracts forming all over in front of the larynx and the trachea. Finally reopening of the old scar and an extensive operation became necessary in order to thoroughly remove the parts which had become infected with tuberculosis in the course of the operation. At the time I thought that this was a very exceptional surgical misfortune. On studying, however, Dr. Goris's valuable contribution just referred to I found that the same mishap occurred in all his four cases, and it seems, therefore, legitimate to conclude that tuberculous infection of the wound is a danger which must be seriously reckoned with in this class of cases.

As to lupus of the larynx, thyrotomy has, so far as I know, but once been performed for that disease. In the "Handbuch der Practischen Chirurgie," by von Bergmann, Bruns, and Mikulicz, I see it stated that Brondgeest has obtained a cure in a case in which he performed sub-hyoid pharyngotomy combined with laryngotomy.

7. *Scleroma of the larynx.*—In this rare affection thyrotomy, occasionally to be followed by methodical dilatation, appears to be the sovereign operation. Pieniazek, according to his own statements,[11] has performed the operation in no less than 130 cases, "mostly on account of laryngo-scleroma, and considers it the quickest and most reliable method of dealing with this troublesome disease." Recurrences are not excluded but seem to occur much later and in longer intervals than after the use of other methods.

8. *New growths in the larynx.*—(*a*) Benign growths.—The principle for the removal of benign laryngeal growths which at present is almost universally accepted is to the effect that no external operation should be performed unless an experienced laryngologist has unsuccessfully endeavoured to remove the growth *per vias naturales*. Broadly speaking, I think this principle to be a sound one and to hold good now as much as ever. At the same time, in the light of the experience gained within the last 30 years, it appears to me that one ought not to be too dogmatic, and that in an individual case the observer's own judgment ought not to be too blindly subordinated to generally accepted canons. Undoubtedly in the enormous majority of benign laryngeal growths a competent specialist will be able, particularly since the introduction of local anæsthesia by means of cocaine, to satisfactorily effect removal by intra-laryngeal operation. Still, there are exceptions to this rule. Thus, above all, cases of multiple papillomata in small children form a group the possession of which has by no means been ceded by the surgeon to the laryngologist. It is true that here again the intra-laryngeal method has made considerable progress within the last few years. Kirstein's method of direct laryngoscopy and Scanes Spicer's introduction of the combination of general anæsthesia by means of chloroform with local applications of cocaine to the pharynx, whereby the troublesome salivation which formerly was the greatest obstacle to the performance of intra-laryngeal operations under a general anæsthetic is prevented or, at any rate, greatly diminished, have greatly facilitated the performance of intra-laryngeal operations even in small children and in towns of sufficient size to support the existence of a laryngologist and in large hospitals in which every possible assistance and after-care are warranted even in the cases of small children attempts at intra-laryngeal removal of multiple papillomata nowadays ought to precede if possible external laryngeal operations. But unfortunately cases of this sort will occur where no favourable conditions for intra-laryngeal removal exist and the grave question arises, What is to be done under such circumstances? Personally I should be in favour of mere prophylactic tracheotomy being performed and of the child wearing its tube until it had grown up sufficiently to assist intelligently at subsequent efforts at intra-laryngeal removal of the growth. But a former colleague of mine at St. Thomas's Hospital has drawn my attention to a contingency of which, if I remember rightly, he had seen a sad real illustration. Cases of this sort unfortunately not rarely occur in children of poor parents who are compelled to leave their children to themselves whilst both father and mother are following their occupations. Supposing there were several children in a house one of whom, for the reason now under discussion, was wearing a tracheal cannula, and that during play or a childish quarrel its tube was torn out from its throat, speedy death from suffocation might supervene before help could be afforded. The possibility of such an occurrence ought not to be lightly dismissed from one's thoughts, and if it be present I would rather, though not cheerfully, agree to the performance of thyrotomy than leave the child for years under the shadow of an almost ever-present danger. Should thyrotomy be resorted to under such circumstances one ought not to flatter oneself with the idea that by gaining easier access to the growth with the performance of laryngotomy a greater guarantee against recurrence would be offered than by the employment of the intra-laryngeal method.

Cases abound in laryngeal literature in which thyrotomy has had to be performed over and over again in cases on multiple papillomata in children, and an experience of my own which strongly bears upon this question has shown me the utter futility of the belief that in cases of a tendency to papillomatous degeneration this tendency can be eradicated by external operation. This experience refers to a case which I have reported in the *Archiv für Laryngologie*, vol. vi., Heft 3. It was the case of a man, aged 64 years, in whom I performed thyrotomy with removal not only of the growth, but also of the healthy zone in its entire neighbourhood, on account of what was supposed to be an epithelioma at the time of the operation. The removal, needless to say, was much more thorough than one would ever aim at in a case of benign papilloma. Nevertheless, four years later, practically the whole larynx of this patient was in a condition of papillomatous degeneration. If such an event could occur after so radical an operation, how much more likely will the occurrence be after mere thyrotomy and removal of the innocent growth in a case in which thorough removal of the healthy neighbourhood can hardly be considered permissible. It would not, therefore, be with a light heart that I would ever agree to the performance of thyrotomy for multiple papillomata in children, and cases in which it ought to be performed will certainly be very scarce. I did, however, not wish dogmatically to exclude altogether the propriety of its performance under certain exceptional circumstances, such as mentioned before. Another exception to the general rule named at the beginning of this paragraph may occur in cases of exceptionally large mobile laryngeal growths which may become suddenly impacted in the glottis and cause death before relief can be afforded. Such a contingency will

[9] Loc. cit.

[10] La Thyrotomie dans la Tuberculose du Larynx, Annales de la Société Belge de Chirurgie, No. 7, 1898.

[11] Heymann's Handbuch der Laryngologie, vol. i., p. 1326.

no doubt be extremely rare, but, as I know from sad personal experience, it may become a grim reality. An isolated case of that sort will not, of course, supersede the general accumulated experience of so many years, but if a similar case should again come under my notice I should certainly not persevere as I did with my endeavours at intra-laryngeal removal, but should after one or two failures either perform prophylactic tracheotomy and then resume intra-laryngeal operations or, more probably, should at once perform thyrotomy and remove the growth from the external wound.

(*b*) Malignant growths.—The last indication of thyrotomy which I have to discuss I believe to be both the most frequent and the most important one—viz., its indication in the early stages of intrinsic malignant neoplasms of the larynx. I have already mentioned that the operation in cases of malignant disease had been totally discredited in 1818 by the statistical monograph of Paul Bruns. Three years ago I endeavoured to show [12] that the condemnation which Bruns at the time (1878) was fully justified in passing was due to the fact that the operation at that time was almost always undertaken at a stage when the disease was much too far advanced for this form of operation. But in spite of the fact that our diagnostic powers of the early stages of intrinsic cancer and sarcoma of the larynx have made enormous progress since those days, that the technique of the operation itself has been greatly improved, and that its results nowadays, in really suitable cases, are of the most encouraging nature, the operation, except in Great Britain, has not yet fully recovered from the universal prejudice raised against its performance 22 years ago. A few operators, such as Butlin, Chiari, Schmiegelow, and myself, have repeatedly of late years endeavoured to convince the profession of the enormous usefulness of thyrotomy in really suitable cases of malignant disease of the larynx. Unfortunately, however, our efforts have hitherto, as far as I can judge, been greatly interfered with (1) by recent statistics, which owing to their controversial compilation do not, I am convinced, represent the *real* achievements of modern thyrotomy, and (2) by the rivalry of the two methods which, as it were, form the opposite poles of possible surgical interference in the class of cases now under consideration—viz., the intra-laryngeal method and partial, or even total, extirpation of the larynx. I therefore warmly appreciate the selection of this subject for discussion at an international gathering of this character. It is quite true that not many arguments are likely to be advanced which have not already been made use of in recent papers on this question, and I personally shall refrain from reiterating at length my own views, partly on account of the limited time at my disposal and partly because I have said practically all that I could say in my various papers on the subject.[13] But a few facts seem to me to stand out so prominently, both from the results obtained by various methods and from the considerations which could be urged in favour or in disparagement of any of the rival methods of surgical interference now in use, that I wish in conclusion of my paper to lay them before you in as concise a form as possible.

We are all agreed, I take it, (1) that no internal medication of any kind has the least influence upon the course of malignant disease of the larynx, and (2) that surgical measures are the more likely to be permanently successful the sooner they are undertaken—i.e., at the time when the mischief is still purely local and not yet generalised. For the last-named purpose it is of the highest importance that the *early symptoms* of malignant disease of the larynx should be known *to every general practitioner*, and that the superstitions, unfortunately still too prevalent with regard to this question, should for ever be swept away. It ought to be generally known that the symptoms now usually associated in medical minds with cancer of the larynx—viz., cachexia, pain, swelling of the cervical glands, fœtor of the breath, and expectoration of blood—as a rule only occur in the *later* stages of the disease and may even be absent, one or several of them, till the very end of life. It ought to be generally known, on the other hand, that, just in those cases which give the very best chance and which are particularly suited for thyrotomy—i.e., in cases in which the disease begins on the vocal cords—the *only* objective initial symptom is usually hoarseness, and that if a person above the age of 50 years, particularly a man, has suffered for some length of time from some inexplicable dry hoarseness without any further symptoms his case ought to be considered suspicious enough to be subjected to laryngoscopic examination at the hands of an expert. When once these simple truths have become common property, malignant disease of the larynx will be much sooner recognised than, unfortunately, even now is the rule, and the proportion of lasting success from surgical interference in this terrible disease will become much greater than it is at present.

Now, if a suspicious growth be discovered in the larynx, a part should, if possible, be removed by intra-laryngeal operation and submitted to microscopical examination; should this, however, be impossible, or should the result of the microscopical examination be indecisive, the clinical observer must have the courage of his opinion and not wait too long until it is either too late altogether or until such drastic measures as partial or total extirpation of the larynx are the only means by which a cure can possibly be hoped for. Better, as I have said on a previous occasion, a thyrotomy performed where milder measures might possibly have sufficed than a life lost or a most serious and mutilating operation rendered necessary by waiting too long. I would therefore put it as a clear indication for thyrotomy that in all cases in which the presence of a malignant growth in the interior of the larynx, of a still circumscribed character, has either been definitely ascertained or has been rendered, at any rate, very probable from the clinical symptoms thyrotomy should be performed with a view to eradicating the disease by subsequent removal of the growth itself with a zone of surrounding healthy tissue. In those cases in which the disease is still limited and situated within the confines of the larynx proper, without the cervical lymphatic glands being as yet infiltrated, this simple operation will be found to suffice, not only for the radical extirpation of the disease, but also for the prevention of recurrences.

Without wishing to anticipate in any way the conclusions of my co-referee, Dr. Goris, I must state here, to justify my own attitude, that in my own private practice I have succeeded, by following these principles, in lastingly curing 83·3 per cent. of all the patients whom I have operated upon by thyrotomy. At the same time I wish again emphatically to repeat that such results can only be obtained by the selection of cases which are really suitable for this form of operation. Very advanced disease, infiltration of the cartilaginous framework itself, affection by contiguity of neighbouring parts such as the pharynx, tongue, or œsophagus, extensive infiltration of the cervical lymphatic glands, very old age, concomitant chronic and serious disease of the lungs or bronchial tubes may, of course, from various points of view, be so many contra-indications to thyrotomy in particular and to other external radical operations in general.

Every single case ought to be decided upon on its merits. No operator ought to start on his operation with the determination to perform only thyrotomy, and nothing else. If in the course of the operation the disease should be found to be more extensive than could have been judged by laryngoscopical examination the compass of the operation should either be changed into partial or even total extirpation of the larynx or the attempt at radical operation ought to be altogether abandoned. What I have particularly at heart is that thyrotomy should not again be discredited by being undertaken in *a priori* unsuitable or in much advanced cases. Its real sphere of usefulness lies in the early stages of true intrinsic cancer or sarcoma of the larynx. Personally I am convinced that intra-laryngeal surgery will never be able and, indeed, in its own self-understood interest ought not even to try, to rival thyrotomy in cases of malignant growths of the larynx.

The principle so universally acknowledged in surgery—viz., that operation for malignant disease can never be successful unless really radical—so much militates against the employment in this class of cases of intra-laryngeal operations, which, from the nature of things, do not afford

[12] Zur Frage der Radikaloperation bei bösartigen Kehlkopfneubildungen mit besonderer Berücksichtigung der Thyreotomie, Archiv für Laryngologie, vol. vi., Heft 3, 1897.

[13] 1. The Results of Radical Operation for Malignant Disease of the Larynx, from the Experiences of Private Practice. THE LANCET, Dec. 15th (p. 1417), 22nd (p. 1474), and 29th (p. 1532), 1894. (This paper has been translated into French and published in the Supplement of No. 22 of the Revue de Laryngologie, Otologie, et Rhinologie, 1895.) 2. The paper already referred to in the Archiv für Laryngologie, 1897. 3. Die Thyreotomie bei bösartigen Kehlkopfneubildungen, Die Therapie der Gegenwart, April, 1899. 4. Einige Bemerkungen zu der neuen Semdziak'schen Statistik über die operative Behandlung des Larynxkrebses, Monatsschrift für Ohrenheilkunde, November, 1899.

a guarantee as to the thoroughness and completeness of the removal, that I honestly believe that, in the interest both of the operation and of the reputation of laryngology, in none but the most favourable cases should attempts be made to treat malignant disease of the larynx by endolaryngeal operation. I must frankly confess that even the reports of cases which have been successfully dealt with by intra-laryngeal operation have not been able to shake in the least my conviction going to that effect. The field is wide enough, in all conscience, for intra-laryngeal surgery without this very dangerous ground being contested.

On the other hand, there is ample scope for intra-laryngeal operations of the more extensive kind, such as partial or total extirpation of the larynx in cases in which the disease either has been *a priori* unsuitable for thyrotomy or in which the diagnosis has been arrived at too late for the minor operation to be undertaken with a reasonable chance of success. The results of Professor Gluck and others have shown us how much can be done by some operations in even apparently desperate cases, and I most heartily congratulate him and his followers on having by such operations saved life in an ever-increasing number of such advanced cases. But what I protest against is that these heroic measures should be undertaken in cases which do not really require them. There ought always to be some proportion between the degree of the disease and the operative measures undertaken to cure it, and from my literary studies on the subject I am seriously afraid that this principle has not been adhered to of late by every operator. Those who advocate thyrotomy in those early cases have been assured time after time that their endeavours were being followed with "sympathetic interest," but at the same time I regret to say that I have the impression as if their practical results were persistently ignored.

The time has now fully come when everybody should be capable of forming an opinion on this question, and if the results obtained be scrutinised with an unbiased mind I have no doubt that the chief indication for the employment of thyrotomy will in future be found in early intrinsic malignant disease of the larynx.

A NEW DISEASE WITH A SPECIFIC URINARY REACTION.[1]

BY N. F. SURVEYOR, M.D. BOMBAY, M.R.C.P. LOND.

ABOUT the early part of October, 1899, a young Parsee woman received rather a nasty cut on the tip of the thumb of the left hand. There was much bleeding at the time and the wound had not healed up even at the end of the month. About Oct. 29th she complained of smarting pain in the left eye. There was slight congestion of the conjunctiva, to relieve which simple warm astringent lotion was applied to it. On the next day the patient was much the same; during the night, however, the left side of the face was considerably swollen. In the morning when I saw her there was some redness of the part. The swelling, which was rather œdematous in character, seemed to start near the region of the left parotid gland and to extend over the cheek, nose, lips, and eyelids of the left eye. It did not extend to the right side. The inside of the mouth was also somewhat swollen and tender. The tongue and the gums were not involved. The swelling had very slight tendency to extend on the right side near the lips. There was increase of conjunctival congestion and there was much lacrymation. The skin over the left ear was not so much affected. The whole part was covered with small pin-head-like vesicular eruption. There was much smarting pain and a sensation of heat was complained of. There was no rise of temperature, nor did it rise higher than 99° F. during the whole course of the disease. The wound on the thumb was found to be dry and had an unhealthy look about it. There were present a few fine vesicles on both hands. There was no swelling of the left hand nor was there any pain except near the wound. On closer examination a thin bleb was found at the root of the left thumb on the following day. This was opened and serous fluid escaped which did not show any micro-organisms under the microscope. Thinking that erysipelas was threatening I painted the swelling with tinctura ferri perchloridi, tinctura iodini and Ferris's linimentum belladonnæ in equal parts. This caused some temporary smarting; however, the swelling and pain were decidedly less after a time. Internally the following prescription was given: three drachms of liquor hydrargyri perchloridi, 15 grains of potassii chlorati, 15 grains of potassii iodidi, 15 minims of tinctura nucis vomicæ, one and a half drachms of tinctura chloroformi composita, aquam to three ounces, misce—fiat mist., divide into three doses, one every four hours. 31-10-1899. On the next day—i.e., Nov. 1st—the condition was much the same. Hoping to obtain some information I examined the urine, which, however, showed nothing unusual as regards the ordinary constituents, except that it was rather watery and poor in urea, uric acid, indican, and salts. However, on adding a drop of strong caustic soda solution to the centrifugalised deposit, with a view to testing for pus, I found that the urine assumed a bright, pinkish purple colour. Examination of the urine which had been passed during the whole course of the illness showed the same reaction with varying intensity. There seemed slight periodicity; thus, about from one to two hours after a dose of the mixture it happened to be more marked. Again, lighter coloured urine as a rule gave feeble reaction. The colouring matter was generally completely brought down by the precipitated phosphates and the fluid became almost clear on centrifugalisation.

The precipitate was scarcely, if at all, soluble in any of the solvents that I tried. Thus distilled water, alcohol, ether, turpentine, chloroform, xylol, benzol, and carbon bi-sulphide remained perfectly clear even after repeated shaking for days together. Glycerine seemed to take it up very slightly. The reaction could be obtained by adding any other alkali, thus caustic potash, ammonia, liquor calcis, chlorinated lime, and dilute hypobromite of soda produced the same reaction; excess of the last-mentioned, however, destroyed the pigment. Even strong acids destroyed the pigment-producing substance very slowly, and on alkalinising the urine the reaction was obtained after more than five months. Thus the addition of hydrochloric acid to the extent of making a 20 per cent. solution was not able to destroy the substance after 181 days. In this case it was noticed that the supernatant fluid gave the reaction very feebly, while the scanty brownish deposit produced the reaction readily. In another sample the reaction was scarcely perceptible after four months—in this case, however, I had no opportunity of testing the deposit. Heat did not destroy the reaction. The pigment under the microscope appeared to be made up of amorphous granules. The spectroscope did not show any absorption band. At the suggestion of Dr. Meyer, experiments with oxidising agents, like permanganate of potash and hydrogen peroxide, and with deoxidising substances, like stannous chloride, Stokes's fluid, sulphide of ammonium, yellow sulphide of ammonium, and ferrous sulphate, showed that the colour became faint in the presence of deoxidisers, while oxidation with hydrogen peroxide seemed to make the colour brighter at first, then it gradually became faint, but total destruction of the colour was not produced even after five months. Yellow sulphide of ammonium turned the solution yellowish; however, on the addition of hydrogen peroxide, feeble reaction was reproduced. The effect of ferrous sulphate, Stokes's fluid, and permanganate of potash was disguised by the coloured oxides that were precipitated, while the ammonia, present in sulphide of ammonium, interfered with the effect being well observed. Stannous chloride and hydrogen peroxide were the two chemicals which I found best suited for studying the effect. At the suggestion of Dr. Herbert I tried the effect of solution of iodine in potassium iodide. The colour of iodine masked the reaction and the deposit became whitish in character; in fact, this reagent acted as a deoxidiser; however, on neutralising the iodine with excess of caustic soda feeble reaction appeared, and on oxidation with hydrogen peroxide the intense reaction was at once produced. The observations for the presence of this reaction were continued till Nov. 17th, on which day a negative result was obtained.

On the night of Dec. 5th, 1899, the attack recurred. On the previous day there had been some pain in the left ear. This time the eye was less affected while the pain in the ear and

[1] A paper read before the Bombay Medical and Physical Society.

the swelling of the skin near it were more marked. On this occasion the swelling and pain were not so severe as during the first attack. This time the whole course was febrile like the first one. In other respects there was no difference noticed. This time there was no external wound on any part of the body, the thumb having quite healed up. Before any internal medicine was given I had an opportunity of examining the urine and the same reaction was obtained. On this occasion there was a slight trace of albumin and it was found that saturating with neutral ammonium sulphate produced a dirty grey amorphous deposit. This was filtered, and the filtrate gave the reaction rather feebly, while the precipitate, although washed repeatedly with saturated neutral ammonium sulphate solution, gave the reaction strongly. However, on washing another sample with distilled water the reaction-producing substance was removed from the precipitate.

Here I may state that the presence of this substance is likely to mislead one as regards the presence of peptone. Fehling's solution produces a beautiful pale rosy colour identical with that of peptone reaction. The absence of peptone in this case was proved by the salicyl sulphonic acid and neutral ammonium sulphate test, while a control test with peptone added to urine failed to give the purple reaction with an alkali.

Now, finally, I have to say a few words regarding the nature of this substance. One thing is certain, that this reaction is not found in any other sample of urine which I have examined. However, I have reason to believe that the substance from which this pigment is produced does exist in a modified form in the urine in certain cases. In the sample of urine treated with hydrochloric acid mentioned above I have said that I was able to obtain the reaction by adding caustic soda. However, in my first experiment, there being probably too much brown deposit used, I found that the alkaline solution was brownish in colour, so I added a little hydrogen peroxide with a view to see if the brownish pigment could be so altered as to reproduce the pink reaction. This surmise was at once verified, and since then I have tried the same test with two other samples in which the pigment was not present in fresh urine and the brownish deposit had assumed a pale rosy colour similar to that which is produced by leaving the purple deposit in contact with hydrogen peroxide for a long time. This was in a case of scurvy and the other one was in a case of fever brought on by slight hepatic congestion. In other cases I have not obtained this modified reaction, and it is interesting to note that the urine of the patient whose case gave this reaction gives neither the original nor the modified one now that she has quite recovered.

I may state here that the patient is a martyr to asthma; yet during a rather severe fit I have failed to obtain the reaction with her urine. In the mixture given for this illness will be found tinctura chloroformi composita. Now this contains carmine as a colouring agent; so my attention was directed to prove whether or not this reaction was due to some special idiosyncrasy on the part of the patient to excrete this substance. Experiments on other people failed to give the reaction. Every single drug was tried separately and collectively on myself with negative result. On the other hand carmine was added in minute amount to healthy urine and the reaction was at once obtained; however, this reaction is soon destroyed by hydrogen peroxide. To be sure that carmine had nothing to do with the urinary reaction I availed myself of the opportunity afforded by the second attack, when the drug was withheld, yet there was no difference in the reaction produced. The blood was examined for the reaction during the second attack with negative result. At the suggestion of Dr. Lyons I tried Bremer's test with Congo-red, methylene-blue, methylene-blue and eosin fuchsin, and erythrosin. There was no difference noted in the staining reaction except in the case of Congo-red. This stained the blood film more deeply than in a control case, quite the reverse of that which happens in diabetic blood. I have not had an opportunity of verifying this observation under more rigid conditions, so I cannot say whether or not there is a specific staining reaction present in this disease. The filtered pigment being allowed to dry in air becomes bluish in colour. As regards the nature of this disease I abstain from making any observations now. In conclusion, I have to state that from a record of 195 cases of urine analysis I have not seen a single case giving this reaction.

Bombay.

ECZEMA AND THE ALLIED DISEASES: AN OUTLINE OF THEIR ETIOLOGY, PATHOLOGY, AND TREATMENT.[1]

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I HAVE been asked to open a discussion on eczema and the allied diseases with the hope that a large number of members will express their opinions regarding the etiology, pathology, and treatment of this widely-known and interesting group of disorders.

First of all, how are we to define eczema? On this very subject at the Edinburgh meeting of the British Medical Association in 1898 an eminent dermatologist, quoting John Hunter, said "that definitions were the most damnable things," and they are so. I would define eczema as "a serous inflammation of the skin not produced by any form of external irritants." At some stage or other of its evolution there is or has been exudation of serum. In the acute stage, at all events, the clinical signs of inflammation—heat, pain, redness, and swelling—are all present, but the rise of body temperature that accompanies other forms of inflammation is almost invariably absent. I agree with those authorities who regard an erythematous, a papular, a vesicular, a pustular, a dry or a scaly eczema, as simply stages of the same complaint. I would recognise as the great sub-variety of eczema "eczema seborrhoicum," and one means by that an eczema occurring in a patient who also suffers from seborrhœa, and it usually commences and spreads after the same fashion as seborrhœa, starting on the scalp and progressing slowly downwards over the body and limbs. Sweat eczema, follicular eczema, or sun eczema barely deserve the name of sub-varieties, and eczema marginatum is body ringworm attacking sweaty parts of the skin.

That there is real difficulty and confusion in connexion with the terminology of this disease is very easily exemplified, for do we not often hear people talk of the secondary eczema produced by the irritation of the itch parasite? Now this does not fit in with my definition of the complaint nor with any of the terminology usually accepted by dermatologists. Scabies, in fact, is produced by a direct irritant to the skin, and the various skin conditions associated with it should be varieties of dermatitis. If we are to retain the old familiar term—and it would certainly take a lot of knocking out—we should at all events have a clear image in our minds of what we mean by eczema and what we mean by dermatitis. We all appreciate one great difference between a dermatitis and eczema. The former is under control—i.e., the irritant can under ordinary circumstances be removed; but it is not so with the latter disease, only too frequently does it baffle us and get out of control.

THE ETIOLOGY OF ECZEMA.

Personally I prefer to consider eczema as a distinct disease, as an entity as clearly defined from other diseases as is, for instance, enteric fever from pneumonia. Hereby I commit myself to the parasitic theory, believing that it is brought about by the behaviour of a specific organism, possibly the "morococcus" of Unna, just as the other compared diseases are brought about by the doings of the bacillus of typhoid fever or the pneumococcus of inflammation of the lung. When we speak of eczema being produced, as it very often is, by a chill, or through nervous influence, or by a gouty inheritance, or by diabetes, we do not mean that these conditions are the actual cause of it. We mean that they are the exciting causes, that they reduce the soil suddenly, or perhaps quietly, to a condition favourably receptive to the eczema "morococcus." A chill may equally be the exciting cause of eczema, pneumonia, scarlet fever, or rheumatic fever, or of any other complaint, and the public at all events are quite satisfied with this sole explanation. Even to us, knowing more of the specific cause in each case, there is still a veiled pathological dreamland; for why should a chill in one instance favour the attack of the eczema organism, and

[1] A paper read before the Pathological Society of Reading on June 14th, 1900.

in another that of the pneumococcus, and in another that of the tubercle bacillus? Well, there is the individual to be considered; the altered conditions produced by the chill in the one case may be very different to the conditions brought about by it in the other. Then comes, too, the question of the "survival of the fittest"—I mean of the fittest organism. One particular set of bacilli in the neighbourhood of the depressed patient may be infinitely more numerous, or, again, one bacillus may be healthy and fit for attack while another may itself be suffering from a chill of some kind or be knocked out at the time from the attack of a better conditioned organism. We must not confuse the attentions of the staphylococcus pyogenes aureus or albus with those of a specific organism. Their doings are accidental and preventable.

In the January and February numbers for 1899 of the *Dermatological Journal* Dr. Leslie Roberts has a most excellent and exhaustive article dealing with the pathology of eczema. He opens it by drawing attention to the inflammatory, secretory, excretory, and digestive functions of the epithelium of the skin, or rather of the cellular components of the epithelial layer. To think of special skin cells possessing an inflammatory function is only funny upon first consideration, for, after all, they are strictly comparable to the cells of the epithelial layer along the alimentary and other tracts. There is no doubt, so far as our present knowledge goes, that only individual sets of cells along the mucous tracts do individual business, and it is fair analogy to give separate functions to separate skin cellular tracts. As to the digestive functions of the skin Dr. Roberts clearly proves them by actual test-tube reactions carefully watched in an incubator. But in the more practical part of his paper he allows no sharp line to be drawn between dermatitis and eczema. There are three main propositions that I would ask the members of this society to express their opinions upon. 1. Is eczema an entity—a specific disease? 2. Is it due to the fact that certain functional epithelial cells are excited into over-activity by some kind of irritant? 3. Is there any distinction at all to be drawn between eczema and dermatitis?

I will now cite just a few practical examples of the difficulty of the question. At a meeting of the Dermatological Society of London on March 14th I examined a patient brought forward as a case of "pyodermia." At a meeting of the British Dermatological Society on Feb. 23th I examined some pure cultivations of the staphylococcus aureus from a case of "acute recurring eczema." Then, again, there are the cases of exfoliative dermatitis which nowadays we frequently see, and which no doubt we saw quite as frequently in the days gone by, but we simply did not bother to differentiate and called them all "eczema." The sceptic will say that it did not matter—the patients did just as well and what particular coccus was knocking about was quite immaterial. This, however, is not true, for without a true pathological and bacteriological idea of what is going on it is quite impossible to methodically treat any case of skin disease—or for the matter of that any kind of disease whatever.

Some of the conditions simulating eczema are not easy of diagnosis. To compare dry eczema with psoriasis, for instance, or seborrhœic dermatitis with psoriasis, or eczema with seborrhœic dermatitis, we must often simply depend upon the general picture as shown to us. The scales of seborrhœic disease are more or less oily and there is not the red dry surface left as after the removal of the scales of psoriasis or the greater or lesser attempt at exudation as noted in the case of the cleansed eczema patch. Dermatitis herpetiformis is often not recognised by the general physician, but it is very important that it should be. Here again the general picture, and particularly the grouping of the vesicles and bullæ, will generally settle the question. The early stage, the pre-mycosic stage of granuloma fungoides, should be recognised. Not long ago at a meeting of one of the dermatological societies at which I was present a case was brought forward in a man as pityriasis rubra. It was recognised by Dr. H. R. Crocker and by others who were present as an early case of mycosis fungoides. There were, however, no signs of tumours present. They developed nevertheless within six months and within twelve months the patient was dead. Indeed, the disease is so invariably fatal that only the worst prognosis can be given. This man as he was shown for the first time corresponded with *les hommes rouges* of the French school. These cases also appear in their early stage pretty often as obstinate general cases of acute or subacute eczema, or, if you wish to call them so, as cases of acute or subacute general dermatitis. Indeed, a very obstinate general eczema should be regarded with grave suspicion. Having once seen one or two cases of developed granuloma fungoides one would not be likely to miss even a single very small tumour. It is useless to remove these tumours.

Patches of eczema and lupus may be very difficult to distinguish the one from the other. I can think now of a man being shown at the Dermatological Society a year or two ago with patches on his hands. They were on the back of the hand, were abruptly circumscribed, were covered with a slight crust, and were thickened. They looked very much like patches of lupus, but I believe that they subsequently turned out to be patches of eczema. There was much difference of opinion upon the condition as then shown. The abrupt margins, the thickening, and the slight crusts made them look very much like lupus. Such cases would have to be watched. If the patches spread by their edges steadily advancing and if some amount of scarring were left behind, the diagnosis would be for lupus, and a tuberculous history might still further assist this diagnosis. But if they spread more diffusely and an improvement was brought about by treatment and without any scarring being left behind then such patches could be definitely fixed as those of a chronic eczema.

The subject of seborrhœa and its allied conditions was brought forward at a discussion at which I was present only last month. Mr. W. Anderson, Dr. Stephen Mackenzie, Dr. H. R. Crocker, and others took part in the discussion. To enter into the details would take too long a time, but the close connexion or relationship between pityriasis of the scalp and seborrhœa sicca et oleosa, and seborrhœic dermatitis and alopecia, was clearly brought out. It seemed to be generally agreed that the waxy and oily forms of seborrhœa were the same disease either in different stages or on different soils. The dry scalp pityriasis is possibly a condition by itself. Seborrhœic dermatitis, or eczema seborrhoicum, is probably seborrhœa complicated by the invasion of the staphylococcus pyogenes aureus et albus. All of these conditions lead to baldness of the scalp or of any other part of the body, and it will be remembered that Sabouraud has lately demonstrated a cocoon of micro-bacilli and epithelium which belongs to, and is the destroying agent of, alopecia areata and which is also, he says, the actual cause of seborrhœa. He also says that these micro-bacilli pave the way for the various pus organisms which so frequently complicate these conditions. Just in passing I would say that there is no doubt that some forms of alopecia of the scalp are produced by the microsporon or by the endo-ectothrix fungus of ringworm.

There are one or two other forms of disease allied to eczema to which I ought to allude. They are amongst those produced by pus cocci. I think we may at once brush aside "ecthyma" as merely being an obsolete name for a form of pustular eczema or for impetigo contagiosa attacking such parts as the legs. Impetigo contagiosa we must accept as a separate entity. We are all familiar with the crusty patches of this disease, which appear, indeed, to be simply dabbed on the surface, and which, unless irritated, have no surrounding erythema and leave no after scarring. Then there is that particular form of sycosis produced by the staphylococcus pyogenes. I am speaking, of course, only of the simple form of folliculitis known as sycosis and not of the byphogenic sycosis. It is said that it is more painful and difficult to epilate in the coccogenic than in the byphogenic form, but the true test is the microscope.

I heard it laid down as an axiom the other day by Dr. Radcliffe Crocker that we should not use the terms "impetigo" or "impetiginous eczema" unless we are referring to impetigo contagiosa. Any authoritative statement of this kind is useful as tending to prevent loose descriptions and definitions. Then what do we mean by "prurigo"? I think it is a separate disease. The history almost always dates from infancy, the earlier manifestations being, perhaps, those of lichen urticatus. It attacks by preference the extensor surfaces and the leading symptoms are the hard, dry papules often topped by a crust of blood the result of scratching. There is something about the scratches which is difficult to describe but which is yet almost pathognomonic. The disease lasts indefinitely; the symptoms admit of amelioration but the condition is not, strictly speaking, curable. I saw an uncommon case of prurigo in a boy the other day in which the face and hands were alone affected.

All the varieties of erythema might be considered allied

diseases of eczema, as also dermatitis due to pediculi or to the acarus of scabies, or to the handling of the primula obconica; also here in Reading we should not forget the skin irritation caused by the handling of hyacinth bulbs. I have dealt with this subject in the number of the *British Journal of Dermatology* for February, 1897. I content myself with drawing attention to these additional diseases and conditions as possible subjects for discussion.

It has been suggested to me that acne in its varieties, and boils, and carbuncles were diseases allied to eczema. Pustular eczema, impetigo contagiosa, boils, and carbuncles are, at all events, due to the same cause. There are plenty of explanations as to why we should find pustular eczema in one patient, a suppurative folliculitis in another, and acne, boils, or carbuncles in another. The reasons for these various manifestations, if they are due to one actual cause, might form a part of the discussion. In connexion with all these pustular forms of skin diseases I think we may be apt to forget that pus may exist without the presence of pus cocci.

THE TREATMENT OF ECZEMA.

With regard to the treatment of eczema one of our members said to me only the other day that he treated his skin patients with zinc ointment and left the rest to Providence. It is an easy method of disposing of them, but I am sure it will be better for the patients if they are carefully and systematically treated. The physician in ordinary can say much to his patients without any fear of contradiction, but patients suffering from skin disease can see and note progress for themselves.

The first great principles in the treatment of eczema and its allied diseases are to soothe when the conditions are acute and to carefully stimulate the skin into healthy action as inflammation and irritation subsides. In a diffuse eczema one of the most important soothing elements is rest; oftentimes absolute rest is required.

Where there are a lot of dirt and crusts about all should be removed before any special form of treatment be adopted. Thorough soaking in weak carbolic oil is one of the best methods of loosening crusts, whether upon the head or elsewhere. The most careful and explicit directions must be given as to the removal of crusts from the scalp. There are various other substances that may be used for the removal of crusts, for instance, boric starch poultices, solutions of bicarbonate of soda or borax, or fitting the head or limb with an impermeable covering. Having removed all crusts and dirt as far as possible the next thing is to soothe and disinfect. There is hardly a skin disease which during some portion of its career does not require anti-parasitic treatment, and the application requires a great amount of care. It would not do to rush away with the idea that sulphur ointment would always do as the disinfectant. If my good friend aforesaid ever should go outside his zinc ointment treatment for acute eczema and the like diseases I think he would apply sulphur ointment, with the result, perhaps, that he would produce a dermatitis. Not that I am laughing at sulphur, for carefully applied in strengths suitable to each case it is an invaluable remedy. Mercury, ichthyol, tar, resorcin, and similar parasiticide remedies suit still better, some in one case, some in another. Experience gradually teaches us when to order lotions or sprays and when ointments or pastes. In any case the remedy must be kept at work. It is not a bit of good simply perfunctorily to tell the patient to dab on this or that ointment or lotion; he must be told how to apply it and how often to apply it.

It would be interesting to hear what members think with regard to the washing of eczema patients. I think that the patients should be washed from time to time for the better disinfecting of the parts, but I should in all cases order soft water or softened water and careful drying afterwards, and the general directions given for the cleansing of the patient should be similar to those that would be given for the cleansing of a wound. Lassar is one of the strongest advocates for these periodic washings, but many dermatologists are much against water being used to the skin in eczematous conditions. This is a fair question for discussion. Lassar particularly recommends tar-baths.

There is one caution about washes and sprays that everyone might not think of, and that is if the skin is broken do not order spirituous sprays or washes. Ordinary frequent washings in eczema and dermatitis are not to be allowed. The cleansing and disinfecting of the parts is the point. For macular and erythematous eczema, and also for some forms of weeping eczema, personally I think very highly of dusting powders. French chalk, cimolite, and powdered talc all make useful dusting powders. Oxide of zinc or starch powder is good for astringing or stiffening purposes, and salicylic acid, boric acid, or sulphur may be added for disinfecting purposes. I have used muslin bags filled with powder, as suggested by Unna, with excellent effect in situations like the groin.

Dry patches of chronic eczema, either hypertrophic or atrophic, are amongst the most troublesome conditions to cure; so, too, are those hypertrophic patches of lichen planus that one so frequently meets with. Stimulation, often strong stimulation, is necessary, but the results must be watched. It seems to me that what suits one case does not suit another and it is often necessary to ring the changes. Strong mercurial or chrysarobin ointments may be useful, tar in some form, or a salicylic and creasote paste, or they may be painted with 10 per cent. to 20 per cent. solutions of caustic potash or nitrate of silver. Blistering is also a valuable means of starting a cure. Of these and of the many other remedies the secret of success with all of them is to keep them at work. Of course, this does not apply to blistering or to the application of strong caustic solutions. Probably some members will give their experience of the gelatin preparations and other varnishes and pastes now so largely used. I am very fond of a medicated plaster in some cases of chronic eczema; I think their great drawback is the fact that they are probably not recently made.

I have said nothing about baths, but having shown myself on the favourable side for the cleansing of eczematous surfaces I have practically committed myself to baths and I fancy there are but few who would not sometimes order baths in skin diseases. Baths of soda and borax, and glutinous, starch, and bran baths we must frequently order; of the rest sulphur and tar baths are perhaps the best. I think the value of baths and their methods of application would be an excellent point in connexion with treatment for discussion.

With regard to the general treatment of eczema and the allied diseases I attach less value to this than to the local treatment. Nevertheless, in conjunction with local applications it must often be of service. In acute disease—especially in plethoric and gouty subjects—undoubtedly free purgation and the use of drugs that will lessen vaso-motor resistance and produce a free action of the skin, kidneys, and mucous tracts generally will be of service. In diabetic skins, whether the condition be xanthoma or ordinary eczematous irritation or dermatitis, undoubtedly general treatment must be gone into. Also where there is evidence of trophic disturbance the nerve change or nerve instability has to be corrected if it be possible to do so. Neurosis is given great importance to by some dermatologists, and sedatives, such as the bromides, and stimulants or restoratives, such as the zinc salts or arsenic or strychnine, should be serviceable. Personally, I think that when we have to deal with such a class of drugs for the cure that we are getting into troubled waters.

Diet in some cases is of importance, but I think time would hardly permit the discussion of the dietary treatment. It is practically treating acute or chronic indigestion. With regard to the treatment at health resorts, and particularly at bathing places and spas generally, no doubt many patients will be benefited by visits to Harrogate, Buxton, Strathpeffer, Aix-les-Bains, Carlsbad, Homburg, and the like places, but it is usually, I think, the patient's general condition rather than the particular form of skin disease that suggests the particular resort. The seaside is not generally suitable for acute or irritable skin disease, but such a statement requires modification.

I do not know why, but it seems to me that medical men as a rule do not trouble themselves much about skin diseases; indeed, they are either to be cured with a dose of white mixture and some zinc ointment or there is nothing to be done for them, and yet I would venture to say that the skin with all its glands and appendages and cells is as beautiful and intricate an organ as any we have to deal with. Its duties in the life-history of the individual are manifold and wonderful to think upon. The physiology of the corium and epidermis and of the appendages which strike down into the subcutaneous tissues teaches us more than a little of the way we live and move and have our being. Its pathology is equally instructive and beautiful; bacteriology probably plays a more important part for it than it does for any other class

of disease. Without this knowledge how can we successfully apply our treatment? Yet how few of us take the trouble to master it and what is the result? If we choose to neglect what is really a beautiful and sightly organ when it is sound the patient with an unsound skin tries to get it cured elsewhere. He dodges here and there, tries first one quack nostrum and then another, usually goes from bad to worse from want of systematic guidance, and occasionally stumbles upon a right remedy at the right time and finds himself better or cured. Forthwith he curses the whole priesthood of medicine and extols the quack nostrum to the skies and the quack proprietor shouts it beyond such trivial confines and space will not hold his jubilations. Of the 101 not cured one hears nothing, even less than nothing, if they return for help to the proper channels. Here some of them will find a kindly and sympathetic practitioner who will take the necessary systematic trouble to alleviate and cure them. However, he is not the man to holloa and the patient soon forgets that he has been ill.

I feel that I ought to apologise for trespassing so much on this one line of argument, but I do it because I feel that if we are to beat down quackery and quack nostrums it is to be done by stronger personal efforts on our part to face troublesome and nasty cases instead of just throwing them over as nuisances. All this applies with more force to the difficulties of dermatology than to any other groups of disease. I believe that the profession is really more in the dark about the knowledge of and the treatment of skin diseases than of any other disorders, perhaps because we have thought that we saw everything and that to know about it and treat it was so very easy. We saw when we had failed and desisted in disgust; the physician in ordinary seldom knows when he has failed and plods on merrily with his patient perhaps as happy as himself. Hard workers are lifting the veil that has prevented the medical man from always producing good results in eczema and the allied diseases, and I will end by quoting an old negro proverb that has just come into my head—"It takes heaps o' licks to dribe a nail in de dark."

Reading.

A CASE OF PUERPERAL SEPTICÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM, AND COMPLICATED BY PHLEGMASIA; RECOVERY.

BY A. HAMILTON WOOD, M.D., CH.B. EDIN.

THE patient whose illness I am about to discuss was confined on the afternoon of May 5th. The first stage was a long and tedious one, due mainly to extreme rigidity of the perineum. There was a superficial tear which, though very slight, may undoubtedly have been the source through which septic matter gained entrance into the system, seeing that the house and its occupants were by no means clean. I visited the patient on the following day and found her perfectly comfortable. She had little or no after-pains. I saw her again on the next day and found her much the same as before; the temperature was normal but the pulse was a little rapid. I was then rather afraid of some septic mischief setting in, and on calling on the following day, which was the third day after her confinement, I found her temperature to be 101° F. and her pulse 120. I gave her then five-grain doses of quinine with some hydrobromic acid to prevent as far as possible the uncomfortable head symptoms which are so apt to follow the continued use of this drug; also 15-minim doses of digitalis. She had some castor oil which moved the bowels well but had no effect on the temperature. I sent for one of the district nurses who douched her night and morning with 1 in 1000 corrosive (intra-uterine). The next day the temperature ran up to 104° and on the same night it was 105·6°. She complained of no pain and told me that she felt "all right but for a slight headache and a dreadful thirst." She was very sleepy and her expression was not anxious but rather drowsy and apathetic. The uterus, though enlarged and contracting badly, was not very tender, but there was a copious foul discharge, a lot of shreddy material returning each time with the douche. On this day, the fourth after confinement, I injected 10 cubic centimetres of anti-streptococcic serum, ordered her a little brandy every three hours, milk and soda-water, bovril, &c., and when I called the next day I found that the temperature had fallen from 105·6° to 102·6°. On that evening the temperature was about the same, 102·8°, so I did not inject any more serum. On the following morning it had fallen still further to 101·6°, but rose again in the evening to 104·2°. This was on May 11th, the sixth day after confinement. In the evening I again injected 10 cubic centimetres of the serum, the chart showing a fall on the next morning to 101°, but in the evening it again rose to 104·2°. Our supply of serum having unfortunately come to an end I could not inject any on that day. On May 13th the temperature in the morning was 100·4° and in the evening 104°, so I again injected 10 cubic centimetres of the serum. On the next day—that was about a week after the onset—the temperature fell to 100·6°; in the evening it was 101°. I now stopped the serum injections but continued the quinine and intra-uterine douching. The pulse, which up to now had varied with the temperature, had also fallen and was steadying down. I may mention *en passant* that from the commencement the secretion of milk was entirely arrested. On the 15th the temperature was 100·6° in the morning and 102° in the evening, but as the pulse was steady I did not mind the slight rise. On the next day it was a little above 100° and the patient was feeling a great deal better. The temperature fell still further on the following day and on the 18th it was down to normal, the pulse-rate falling simultaneously. The discharge, which for the last five or six days had been gradually diminishing, was now very slight. On the next day, however, the patient complained of a little pain down the back of the left leg, and on examining it I found the leg slightly swollen and tender, more especially posteriorly. There was not much tenderness above the popliteal space. The temperature ran up to 99·6° and the pulse to 86. For two days before this phlebitis set in; the bowels had not been opened. The patient had taken some castor oil, but had failed to get relief till an enema was given. I swathed the leg in cotton-wool and raised the foot of the bed. The quinine and digitalis were continued with the addition of some morphia to allay the pain. For the next two days the temperature remained at about 100° and on the following day she complained of pain in her right leg; this was only slightly swollen and not so tender as the left. The leg was wrapped in cotton-wool and bandaged as before. It is interesting to note that the left leg, as is invariably the case, was the first to be attacked and the severer of the two. On the following day the temperature fell to normal and remained so, except for a slight rise one evening due possibly to constipation. Towards the end of the month all pain had left the legs and by a little gentle massage the remaining swelling quickly disappeared. Since June 1st the patient has been getting up for a little each day, and at the time of writing (June 4th) she says that she feels herself again.

This case is deserving of some note, more especially with regard to the mode of treatment adopted. On the sixth day after the commencement of the disease, during which time three injections of serum had been given, the temperature fell considerably and remained down. But the question arises, would the same state of affairs have resulted from the administration of the quinine and digitalis alone without the anti-streptococcic injections? I think not. The intra-uterine douching, no doubt, played an important part in the treatment of the case, but apart from this I am of opinion that the success of the case was to a great extent due to the use of the anti-streptococcic serum. With regard to the after-effects, let me remark, the patient had absolutely no discomfort. Some hold that the serum produces a depressant action on the heart. It may be that three doses of 10 cubic centimetres each is not sufficient to cause any depression; all I can say is that in this case there was no depression, nor were there any uncomfortable symptoms whatever, either after each dose or after the third had been given.

Then a word or two with regard to the phlegmasia. It started in the left leg and a few days afterwards the right was affected, but to a less degree than the left. For a day or two previously she had been very constipated. This may be a mere coincidence, but it seems to support the theory that the rectum, lying as it does on the left side, has something to do with the phlebitis invariably starting on that side. This case, as well as others already published, may aid in inciting the profession to the further use of

anti-streptococcic serum in such cases as the above, my opinion being that it is undoubtedly worthy of a fair trial.

Falkland, Fife.

THE SYMPATHETIC ORIGIN OF POST-ENTERIC TACHYCARDIA.

BY F. CLENNELL FENWICK, M.B., L.R.C.P. LOND., M.R.C.S. ENG.,

SURGEON-CAPTAIN, NEW ZEALAND MOUNTED INFANTRY; LATE SURGEON TO THE CHRISTCHURCH HOSPITAL, NEW ZEALAND.

DR. C. BURLAND in his paper on Tachycardia following Enteric Fever[1] seen in military convalescents mentions a theory suggested by myself of a sympathetic origin of the cardiac phenomena. Having had the pleasure of assisting Dr. Burland in his investigation of the pulse-rate in typhoid fever convalescence I can fully endorse all his remarks. The actual percentages given by him were, if anything, larger than those stated in his paper, but he is no doubt anxious to keep well within the limits. The patients were most carefully examined and some of the more interesting were auscultated daily and the rapidity of the pulse was constant in all. It is a striking point that the only two cases in which the pulse was normal were those of a seaman and of a soldier who had escaped the hardships of the campaign by being stationed on garrison duty. Of the effects of the long marches and scanty food I can speak feelingly. My troop of the New Zealand Mounted Infantry left the base in splendid health. Every man had twice passed a severe medical examination and each had been selected from a large number of applicants. At the end of 700 miles marching a huge proportion had passed through hospital or were at that time on the sick-list. Cases of absolute exhaustion at the day's end were very common and cardiac trouble was a constant complaint at sick parade. Considering that these men had been selected on account of their splendid physique and excellent medical history it must be conceded that Dr. Burland's theory of overworked hearts has solid grounds of foundation.

Whilst discussing with Dr. Burland the reasons of the rapid pulse-rate which we so constantly found I recalled the many cases seen in New Zealand of irritable hearts due to thyroid overgrowth and remembering a proposal to treat this condition by excising the middle cervical ganglion I suggested to Dr. Burland that the cardiac irritability noticed by him in his convalescents from enteric fever might be due to a sympathetic disturbance arising in the superior mesenteric plexus and thence transmitted to the cardiac ganglia and plexus. The superior mesenteric plexus which supplies that portion of the intestinal canal chiefly attacked by the typhoid poison is so closely connected to the cardiac plexus that I saw no absurdity in suggesting that the intestinal inflammation might set up an irritation wave in the terminal filaments of the local nerve-supply which was transmitted or reflected to the ganglia or centre controlling the heart's action (exactly as the pain in hip-joint disease is transferred to the knee-joint) and thus react on a cardiac musculature already weakened and irritable from long-continued strain and insufficient nourishment and produce the rapid pulse noted by Dr. Burland.

The liquid evacuations in enteric fever surely point to a vaso-motor disturbance in the intestinal sympathetic supply, and if the typhoid poison can evoke one function of the nervous system cannot another reaction also take place? The liquid diarrhœa so often seen in nervous people, particularly in medical students undergoing the horrors of an examination, is an example of a vaso-motor explosion. Dr. Burland, whilst courteously declining my suggestion, advanced as an unanswerable argument that if typhoid inflammation could cause a nervous reaction then the same phenomena should also be seen in dysentery. My reply was that in typhoid fever the inflamed area was much larger and that the nerve-supply of this locality was in much closer connexion with the cardiac plexus than that of the rectum. The sympathetic supply of the latter is derived from the pelvic plexus which is directly joined by branches of the second, third, and fourth sacral nerves, and we may justifiably expect to find an irritation wave from the rectal sympathetic nerves reflected through its nearest nerve connexions; and surely the painful tenesmus so constant in dysentery is caused by reflection through the sacral nerves to the inferior hæmorrhoidal branches of the pudic nerves which is derived from the third and fourth sacral nerves and thus places the nerve-supply of the external sphincter in direct nervous connexion with the mucous membrane of the rectum. The marked nervous phenomena seen in the strangulation of a small piece of the intestinal wall, as in Littré's hernia, is surely an argument in favour of sympathetic irritation from the intestinal nerves being reflected to the gastric nerves or the vomiting centre.

A symptom seldom noticed in acute dysentery is a very painful throbbing pain in the lumbar region. This I can only account for on the supposition that the renal plexus is reflexly irritated from the nerves of the rectum. I have only seen this symptom in cases of severe dysentery, and tenesmus was also acute.

Having been for many months exiled from all medical literature I must apologise if my remarks show painful ignorance of current ideas.

[1] THE LANCET, July 28th, 1900, p. 253.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

A CASE OF FOREIGN BODY (CLINICAL THERMOMETER) IN THE BLADDER; LITHOTRITY; RECOVERY.

(Under the care of Mr. JOHN H. MORGAN.)

FOREIGN bodies are much more commonly found in the female than in the male urethra and this is doubtlessly due in part to the larger lumen and the shorter length of the female urethra and partly also to the more frequent occurrence of hysteria in women. If a skiagram had been taken it would probably have revealed the nature of the nucleus of the stone, for both glass and mercury are very opaque to the x rays. The only case which is at all parallel to the very interesting one recorded below is to be found in the *Medical Press and Circular*, 1894, vol. i., p. 548.

An unmarried woman, aged 32 years, was admitted into Charing-cross Hospital on May 17th, 1900. She gave the following history. In 1881, 1888, and in 1891 she was an in-patient at the London Hospital for "rheumatic fever." Whilst there in 1891 she had an attack of hypogastric pain similar to that which she had on admission to Charing-cross Hospital. It was not so severe and she felt nothing of it for twelve months after leaving that hospital. In 1893 she was in the Hastings Infirmary for three months for gastric ulcer and bronchitis and later for three months in the Chest Hospital. In 1894 she was an out-patient at the Grosvenor Hospital for Diseases of the Chest and an in-patient at King's College Hospital on two occasions. During her second stay at the latter institution she underwent an operation for fissure of the anus and hæmorrhoids. Since that time she had had long periods of illness. Two years ago, whilst at the Woking Nursing Home, she had another severe attack of hypogastric pain which came on suddenly and then left her. In August, 1899, she was on a visit to her sister at Cardiff and was suddenly taken ill. She was taken to the infirmary and apparently remained there till March, 1900. She said that during this time she had several periods of unconsciousness and also that her temperature ran an abnormally high course, ranging from 103° to 105° F. The last 14 days were marked by the onset of severe dysuria, the pain and frequency of micturition continuing and getting steadily worse after she left Cardiff. The patient was sent by her medical man to Charing-cross Hospital when she was discovered to be suffering from cystitis and was admitted.

On admission the patient was seen to be an ill-developed

individual. She was short and thin and looked unhealthy. Her conduct during her stay in the hospital convinced most of those who had to deal with her that she was a malingerer. She had always some fresh ache or pain to complain of, though when she was not being observed she was bright and cheerful. She made three consecutive attempts to produce hyperpyrexia. What method she used is not certain. The thermometer registered from 110° to 112° F. and then shortly afterwards the same instrument only recorded 99° if she was carefully watched. She complained on admission of a constant pain across the back and in the hypogastric region extending down the left leg. This was aggravated on micturition which occurred at first about every half-hour. Not only was there pain on micturition but also great difficulty. The urine was alkaline, of specific gravity 1013, and contained albumin and also pus. The evening temperature was usually 100°; the morning temperature was 99° or normal.

The patient's bladder was washed out with boric lotion once a day and she was given boric acid and ammonium benzoate internally. On May 22nd she was anæsthetised and the bladder was sounded by Mr. Morgan. A stone was found anteriorly and to the right. This was then crushed with a lithotrite. On washing out the bladder after several crushings particles of glass and globules of mercury were found to be mixed with the fragments of the stone. A pair of forceps was then introduced and some small pieces of stone and a piece of thermometer nearly an inch in length were removed. The débris thus removed was carefully collected, dried, and weighed, its weight being 12·31 grammes. It was then boiled with strong hydrochloric acid and filtered, leaving on the filter-paper glass and mercury. The filtrate was found to contain phosphate of calcium with a little uric acid. The remnants of the thermometer weighed 4·64 grammes, whilst a complete one weighed 6·1 grammes. The patient continued to pass particles of stone and mercury for a few days after the operation. There was some blood also in the urine. The pus gradually disappeared and the urine became acid. She still complained of pain on micturition and she was on two occasions sounded to find out if anything had been left behind. She was still complaining when she left the hospital on July 11th.

Remarks by Mr. MORGAN.—Amongst the many curious foreign bodies removed from the bladder this is the first instance in which a thermometer has been found. The patient was at first admitted under the care of Dr. Routh as her symptoms were referred to the uterus, and by him Mr. Morgan was asked to examine the bladder. The stone was easily detected and nothing unusual was suspected until the blades of the lithotrite closed upon a substance which yielded in a different manner to any of the substances ordinarily found to compose a calculus. At the first washing fragments of glass and mercury, together with some phosphatic deposit were removed, and the nature of the nucleus was thus disclosed. The previous statements of the patient and her general conduct forbade any reliance being placed upon her statements, but the weight and measurements of the fragments removed, the negative results of two subsequent washings, and the absence of any sign of irritation gave reasons for concluding that the whole of the foreign body had been removed at the first sitting. No trace of blood could be found in the urine a few days after the operation and micturition was called for only with normal frequency. As to how or when the thermometer was introduced through the urethra no cross-examination could elicit any information from the patient, but looking to her general behaviour whilst in the hospital there can be little doubt that it was done by her own act.

OPEN-AIR TREATMENT OF PHTHISIS.—At the meeting of the Bristol Board of Guardians held on August 3rd it was decided to apply to the Local Government Board for sanction to send two patients who were suffering from phthisis to the North London Hospital for Consumption, Mount Vernon, Hampstead, where the open-air treatment is adopted.

LUNACY IN SWINDON.—At the meeting of the Swindon Board of Guardians held on August 2nd it was reported that 142 patients from this union were inmates of the Wiltshire County Asylum, the cost for their maintenance being £3400 per annum. Ten years ago the guardians had only 66 cases in the asylum, at a yearly expenditure of £1160.

Reviews and Notices of Books.

A Manual of Pathology. By JOSEPH COATS, M.D. Glasg., late Professor of Pathology in the University of Glasgow. Fourth edition, revised throughout by LEWIS R. SUTHERLAND, M.B. Glasg., Professor of Pathology in the University of St. Andrews. London: Longmans, Green, and Co. 1900. Pp. xxv.-1132. Price 31*s.* 6*d.*

THE "Manual of Pathology" was the most important literary production of the late Professor Coats. It represents his life's teaching; it deservedly ranks as one of the standard works on pathology in the English language, and it owes that position to its undoubted excellence. It is well arranged, clearly written, and freely illustrated; it is so comprehensive that it leaves few points in the science altogether untouched; above all it is a manual for the student and the practitioner and not for pathologists only, for its author never forgets that pathology is essentially the foundation of medicine and surgery and he continually emphasises the clinical bearings of his subject. It is impossible to read the opening chapters of the book without feeling the value of a combination of clinical experience with pathological knowledge in one who would be a teacher of pathology.

This fourth edition of the work, unfortunately posthumous, had been in part revised by the author himself before his death. But the greater part of the work of revision, and hence a certain share of the responsibility, has rested on the shoulders of Professor Sutherland, who has conscientiously endeavoured to follow the lines laid down by Professor Coats. The task cannot have been an easy one, and though it is our duty to call attention to certain defects in the book it is certain that the work has been well done. Pathology is a vast and rapidly growing subject; it now embraces so many branches that it is doubtful whether anyone can hope to master them all. The development of experimental pathology, of pathological chemistry, of histology, and, above all, of bacteriology, has enormously increased the amount of ground to be covered by the student even since the first edition of this book was published. It is inevitable that with each succeeding edition of a book which seeks to be comprehensive the difficulty of including everything should become increasingly great and in time insurmountable. It is to our mind an open question whether it is any longer advisable to include in a single work so much as is attempted in this. The end can be attained only by an alarming increase in bulk or by inadequate treatment of certain subjects. It is clear that a book of over 1100 pages is as large as any ordinary student can be expected to master, and though the student who has mastered this edition will in most respects be well equipped in pathological knowledge it must be admitted that, as a universal work of reference on the subject, it is in other respects inadequate. As a text-book of morbid anatomy and morbid histology it is an admirable work; much of the information on general pathology—as, for instance, on inflammation and the various degenerations—is excellent and thorough; but there are sections on general pathology which are exceedingly scanty and imperfect—as, for example, the paragraphs on jaundice and albuminuria. The modern developments of hæmatology are practically neglected; leucocytosis is twice mentioned in a casual way, but its immense importance in diagnosis and prognosis is not touched on. Leukæmia is dealt with in almost as imperfect a manner, only a single reference being made to the all-important question of the absolute number of leucocytes per cubic millimetre. Bacteriology occupies 44 pages, and there is no fault to be found with the way in which the facts are presented. It is, however, doubtful whether it is wise to attempt to deal with

the details of the subject in so scanty a space. In the section on animal parasites malaria does not receive adequate treatment; in a work published in 1900 we might have expected some reference to the mosquito, since our definite knowledge as to the relation between it and the malarial parasite dates from 1898 at least.

If we have called attention to what appear to us deficiencies in this book it is because we are in duty bound to do so; but it is right to repeat that such deficiencies are almost inevitable and result from the natural growth of pathology beyond the possible limits of a single text-book. It is with much greater pleasure that we recur to the many good points of the volume. We have tested it as a standard of reference in daily work—the most severe test that can be applied to a book. It is but rarely that we have failed to find on any desired topic information sufficient for the ordinary needs of the student, conveyed in a clear manner and illustrated by a profusion of woodcuts and micro-photographs which are, as a rule, excellent. It is, indeed, the free use of illustrations—there are 490 in the text—which is partly answerable for the large size of the volume. The "Manual of Pathology" must long remain a standard work of reference for students, and Professor Sutherland is to be congratulated upon having carried out the designs of the original author in so successful a manner. But when, in the fulness of time, a fifth edition is called for, as will undoubtedly be the case, we would commend to his consideration the advisability of limiting in some measure the scope of the work.

Analytical Records
FROM
THE LANCET LABORATORY.

PLASMON.

(THE PLASMON SYNDICATE, LIMITED, 56, DUKE-STREET, GROSVENOR-SQUARE, LONDON, W.)

THE introduction of plasmon marks an important advance in the separation of the nutrient material without any deterioration of its dietetic quality from the most natural of all foods, milk. It is to be feared that in the preparation of many foods the process adopted seriously affects the nourishing qualities of the material in its original state. Chemical analysis may show an excellent proportion of flesh-forming constituents, but only physiological evidence can decide upon the real nourishing quality of the food product. Plasmon has satisfied both chemical and physiological inquiries. It consists practically of the casein of milk separated by a very simple process and dried. At no step in the process is objectionable chemical treatment introduced. Plasmon is a tasteless, odourless white powder which is entirely soluble in water though the solution exhibits a slight opalescence similar to that of milk. The dry powder swells up in water to a gelatinous mass which dissolves as more water is added. On boiling the solution a "skin" continually forms at the top of the liquid in the same manner as in fresh milk. The important dietetic salts of milk are retained in the preparation. Everybody is familiar with the effect of mixing aerated water with milk, the casein separating in fine digestible curds and not in voluminous indigestible clots. Further, it is well known that soda-water-and-milk is an excellent beverage and food for the invalid, especially where sensitive conditions of the digestive organs exist. Plasmon is practically the casein of milk thus separated and afterwards dried in a stream of the same gas (carbonic acid) which separates the proteid from milk serum. Our analysis of plasmon gave the following results: moisture, 10·76 per cent.; mineral matter, 7·24 per cent.; milk fat, 0·70 per cent.; proteids, 81·30 per cent. Excluding the moisture these results mean that dry plasmon contains over 90 per cent. of pure proteid. That this proteid thus separated retains its powerful nourishing qualities is evident from the interesting experiments made by Professor Virchow. He concludes that the albumin in plasmon is in its original unaltered condition, and therefore plasmon can replace all other albumin foods. He finds, further, that it is extremely digestible, and in some interesting experiments made upon himself in which the diet consisted almost entirely of plasmon the results were highly satisfactory. Plasmon has accordingly been found of great value as a nutrient in enfeebled conditions of the digestive organs and to be an excellent means of administering food to the sick. It is valuable as a prelude to solid food for patients convalescing after disease or after surgical operation. It is important to point out that plasmon contains, as our analysis shows, the salts of milk including the phosphates, while even a small quantity of common salt may be extracted from it. It is obvious that plasmon may be employed with the greatest advantage for enriching foods or for raising their actual flesh-forming value to a high and trustworthy degree. The variety of ways in which plasmon may be prepared need not be enumerated when regard is had to the fact that it is soluble in water. Thus a powerful nutrient may be administered to a patient without his knowledge, for, as we have already stated, the solution of plasmon is practically tasteless and odourless. The preparation is one worthy of the highest praise. It contains no alkali and is permanent for an indefinite period in the dry state. Chemical analysis shows what a remarkably high proportion of proteid it contains, and physiological experiment has established that this proteid is completely available for the nourishment of the human body.

(1) NEW TABLOIDS; (2) HIGH POTENCY ANTI-DIPHTHERITIC SERUM; AND (3) "ENULE" RECTAL SUPPOSITORIES.

(BURROUGHS WELLCOME AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

Some comparatively recent additions to the list of tabloids are well worth the attention of our readers. The success which has attended the administration of codeine in place of morphine has suggested the preparation of tabloids containing a quarter of a grain and half a grain respectively of the alkaloid. Unlike morphine, codeine may be withdrawn from administration without being followed by unpleasant symptoms. It acts as a narcotic in the relief of pain in the same way as morphine but is less active, and is free from injurious after-effects. As is well known, the drug has proved useful in the treatment of bronchial irritation and cough, while its administration reduces the quantity of sugar in the urine of diabetic patients. Chinosol has been some time to the front now as a convenient bactericide and antiseptic in surgical work. It has also been tried internally in the treatment of tuberculous diseases. Again, it has been administered in febrile conditions which accompany leprous ulcerations and in dysentery. Lately it appears to have acted as a satisfactory febrifuge in typhoid fever. The tabloid of chinosol contains five grains of the salt. The tabloid of urotropine contains five grains of this ammonia derivative (hexa-methylene-tetramine). It has been used as a diuretic and genito-urinary antiseptic, while there is evidence also to show that it acts as a solvent of uric acid and urates. Urotropine is claimed to have been of distinct service in cystitis. Messrs. Burroughs Wellcome and Co., it is important to note, have discontinued the issue of anti-diphtheritic serum in vials containing 1500 units in favour of serums of higher potency. Each vial of the more powerful serum contains 4000 units in five cubic centimetres or less, or vials containing 2000 units in five cubic centimetres or less may be obtained. The rectal suppositories

made by this firm are distinguished by the brand "Enule." We have recently received specimens of "Enule" opium suppositories containing one grain of opium. As is well known the administration of opium per rectum has, besides acting locally, a favourable action in obstinate vomiting and in painful nephritic and uterine affections.

HEREFORDSHIRE CIDER.

(H. P. BULMER AND CO., RYELANDS, HEREFORD.)

The specimens sent for examination were distinguished by the following titles: (1) Cherry Pearmain; (2) Cherry Pearmain, extra dry; and (3) Draught Cider. The results of analyses were as follows. Cherry Pearmain: alcohol, by weight 5·25 per cent., by volume 6·55 per cent., equal to proof spirit 11·49 per cent.; volatile acid reckoned as acetic acid, 0·096 per cent.; fixed acid reckoned as malic acid, 0·24 per cent.; extractives, 6·09 per cent.; sugar, 5·8 per cent.; and mineral matter, 0·27 per cent. Cherry Pearmain, extra dry: alcohol, by weight 4·62 per cent., by volume 5·78 per cent., equal to proof spirit 10·13 per cent.; volatile acid reckoned as acetic acid, 0·16 per cent.; fixed acid reckoned as malic acid, 0·18 per cent.; extractives, 1·95 per cent.; sugar, 0·26 per cent.; and mineral matter, 0·23 per cent. Draught Cider: alcohol, by weight 5·87 per cent., by volume 7·32 per cent., equal to proof spirit 12·84 per cent.; volatile acid reckoned as acetic acid, 0·12 per cent.; fixed acid reckoned as malic acid, 0·23 per cent.; extractives, 2·36 per cent.; sugar, 0·23 per cent.; and mineral matter, 0·25 per cent. The results of these analyses practically divide the specimens into the two classes, "sweet" and "dry," the draught cider presenting a similar composition to the extra dry contained in bottle. In these two specimens the sugar does not exceed one-third per cent., while the ordinary Cherry Pearmain in bottle contains over 5 per cent. of sugar, which accounts for the high amount of extractives. All three specimens were in excellent condition and sound and no objectionable preservatives could be traced. The "extra dry" specimen possesses the marked and very pleasing fragrance characteristic of the apple and is a very wholesome and refreshing drink. Those who prefer cider in which the fermentation is not so complete, and therefore in which the sugar has not "worked out," may select the more or less sweet kinds. The specimens were brilliant and agreeably effervescent. There is abundant evidence tending to show that cider is a healthy beverage during the hot summer months. The above brands may be recommended in view of their purity and excellent quality.

HIGHLAND MALT WHISKY.

(J. S. WHERLY AND CO., 123, ASKEW-ROAD, GATESHEAD.)

On analysis this spirit proved to be free from excessive extractive matters and exhibited a fair average alcoholic strength. The results were as follows: alcohol, by weight 40·30 per cent., by volume 47·67 per cent., equal to proof spirit 83·54 per cent.; acidity reckoned as acetic acid, 0·021 per cent.; extractives, 0·23 per cent. The whisky was relatively light in colour and to the taste was satisfactory. It was free from the common impurities of whisky.

THE "GYE PROCESS" FRESH FOODS.

(THE GYE PROCESS FRESH FOODS (NEW) CO., LIMITED, SUNBURY, MIDDLESEX.)

We have formed a very favourable opinion of these foods, which are preserved without the addition of antiseptics and by a process which, though evidently a desiccating one, is in no sense a process of cooking, for on examination the specimens sent were found to have retained all the properties and characters of the fresh article. We found that on following the directions given the dried-up preparations could be restored to their original bulk and on subsequently cooking they were found to retain to a somewhat remarkable degree the attractive properties of the freshly cooked food. This satisfactory result was true not only in the case of the vegetables but also of the animal foods and the "ration block." Amongst the samples submitted to us were the following: turnips, leeks, carrots, apples, artichokes, onions, cabbage, chicken, veal, eggs, beef, ration block, &c. On trying the specimens of vegetables we found the product after soaking and cooking to be quite tender and to possess a good fresh flavour. These results are very encouraging and afford some evidence that an excellent way has been found of preserving many kinds of foods without the addition of chemicals and without cooking, the products retaining all the properties of the fresh article. As far as we can gather the process would appear to consist of extracting the moisture by special means without altering any of those particular qualities which are destroyed by cooking.

MEAT ESSENCES.

(F. B. COSTA AND CO., 16, DOWGATE-HILL, CANNON-STREET, E.C.; AND GEORGE BAGGER AND CO., PIAZZA SAN BERNARDO 100, ROME.)

The specimens examined were (1) essence of beef and (2) turkey jelly with meat. The former was found to contain the constituents of raw meat juice of which unaltered albumin is the most important. The essence is of excellent flavour and is especially valuable for invalids, since it is easily digested. The latter preparation was found to contain the meat of turkey in addition to the soluble portions. Meat fibre was easily identified under the microscope. It possesses a very pleasant flavour and yields a broth which should be acceptable to invalids. Both preparations are so excellent that it is a pity that the makers cannot contrive to preserve them in glass jars rather than in tins. As a matter of fact we found evidence of some metallic contamination.

HELIDON SPA WATER.

(THE HELIDON SPA WATER CO., HELIDON AND BRISBANE. LONDON AGENCY: IDRIS AND CO., CAMDEN TOWN, LONDON, N.W.)

We have made a careful analysis of this water, which is said to be drawn from the natural spring of Helidon, Brisbane, Australia, and the following results were obtained: carbonate of soda, 183·32 grains per gallon; common salt, 46·57 grains per gallon; and carbonate of calcium, 9·87 grains per gallon. The total mineral constituents are thus 239·76 grains per gallon. We could only find lithia in traces—that is to say, hardly in a quantity to justify the water being called a lithia water. In an analysis published on the label of the bottle we notice that 2·68 grains per gallon of lithium carbonate are said to be present. Assuming these figures to be correct it would not be true to state that "this water contains more lithia than any of the European spa waters." Further, the quantity of chloride of sodium given in the analysis on the same label is 2·99 grains per gallon, whereas we found over 46 grains per gallon. These figures are so discordant as to suggest that the water is liable to important variations in composition. The water has a very agreeable and soft taste, is free from iron, and pleasantly sparkling. Moreover, it contains no organic impurity.

DIETETIC PREPARATIONS.

(COOMBS EUREKA AERATED FLOUR COMPANY, LIMITED, NOTTINGHAM. LONDON AGENCY: 8, FARRINGDON-ROAD, E.C.)

An assortment of food preparations sent to us by the above firm comprised malted food, fruit salt, custard powder, blancmange powder, egg powder, and light pastry powder. The preparation possessing most merit, perhaps, is the malted food. Its title sufficiently explains its composition. By the method adopted the food is undoubtedly enriched and made more assimilable. The fruit salt consists of a powder which effervesces on adding water and its composition presents no novelty. The custard powder consists largely of starch faced with yellow colouring to give it the appearance of eggs, but in no sense can this powder be regarded as an

efficient substitute for the true custard made from eggs. It contains but a trifling proportion of flesh-forming materials. The blanc-mange powder is similarly composed, as is also the egg powder. The word "egg" in the latter case is a decided misnomer, implying eggs where no shadow of eggs is. Lastly, the light pastry powder consists of flour containing a small addition of ingredients which yield carbonic gas on moistening. Thus the product is made spongy and light by the disengagement of the gas during cooking.

HÆMOGLOBIN CAPSULOIDS.

(THE CAPSULOID CO., 31B, SNOW-HILL, LONDON, E.C.)

According to our examination these capsuloids contain hæmoglobin in an oily excipient. The contents of one capsuloid weigh a little more than three grains, and according to our analysis the proportion of iron is 0·30 per cent. The administration of iron in this form is satisfactory. Hæmoglobin is well borne by the stomach and easily assimilated. To not a few the appearance of hæmoglobin preparations is repulsive. The capsuloid meets this objection, and evident care is devoted to its preparation.

(1) SAVON DU TRANSVAAL; AND (2) SAVON SURFIN.

(MADAME ESMÈE, 5, BROOK-STREET, LONDON, W., AND BLANCHE LEIGH, 4, RUE DE LA PAIX, PARIS.)

Both specimens consist of delicately prepared soaps, neutral in reaction, free from irritants and resins, and therefore, apart from medication, suitable for delicate skins. But the soaps are regarded as antiseptic and also of some curative value on account of the presence of ichthyol. Ichthyol is, of course, of well-known value in various skin diseases, but we do not think that the very small amount present in these toilet soaps can avail much in this direction. On distillation with alkali the yield of ammonia was quite minute. Since ichthyol is an ammonium salt this result indicates but a very small proportion of this curious product. For external application ichthyol is used in an ointment containing from to 50 per cent.

CHELTINE FOODS.

(WORTH'S FOODS SYNDICATE, LIMITED, CHELTENHAM.)

We have on a previous occasion described the composition of the "diabetic food" of this company. Since it contains an abundance of carbohydrates it cannot be accepted as in the least degree suitable for diabetic patients. On the contrary, it would be harmful. We have also examined certain other foods prepared by this company, notably, "Perfect Food" and "Dyspeptic Food." We have devoted our attention chiefly to the proportion of soluble and digestible matters in these foods and to the evidences of a microscopical examination. The results were satisfactory and indicated that the foods had been prepared with the view of aiding the digestive processes. Their names, therefore, to some extent are justified. Further, we found that the foods contained an excellent proportion of the cereal phosphates and of the nitrogenous constituents. The flour used is evidently of superior quality.

PETANELLE DISINFECTING POWDER.

(PATE, BURKE, AND CO., 6, WOOL EXCHANGE, BASINGHALL-STREET, LONDON, E.C.)

Besides being itself a disinfecting agent on account of its porosity this curious substance is a most excellent vehicle for absorbing disinfectants to be applied for domestic purposes. Petanelle possesses the undoubtedly advantageous property of floating upon water, so that by keeping a film of an oily disinfectant upon the surface of water offensive gases are effectually deodorised. Moreover, the substance is so light as to be easily swept away by a flush of water so that it would not block the pipes. It is an interesting peaty product, very porous, and an effective absorbent—a property which adapts it admirably for hygienic and disinfectant purposes. Petanelle, it may be added, is used in the preparation of a surgical woo and of a variety of hygienic fabrics, such as clothing, abdominal belts, &c.

V. O. SCOTCH WHISKY.

(FINDLATER, MACKIE AND CO., 16, PRINCE ALBERT-STREET, BRIGHTON.)

Judging from the peculiar softness and mellowness of its flavour, which, of course, is a very satisfactory feature, this spirit has been properly left to mature. It is stated to be 10 years old. The results of analysis were as follows alcohol, by weight 43·24 per cent., by volume 50·82 per cent., equal to proof spirit 89·06 per cent.; acidity reckoned as acetic acid, 0·033 per cent.; extractives, 0·48 per cent. mineral matter *nil*. These figures show an alcoholic strength which is somewhat above the average for whisky. We have no doubt that this whisky is derived from genuine materials. It possesses a flavour characteristic of malt and is as free as it is possible to be from objectionable alcohols.

ALBUMEN PASTE.

(THE NAO FOOD COMPANY, 2, GREAT GEORGE-STREET, LONDON, S.W.

We have carefully examined this "paste" and have found it to be correctly described. The major portion of the albuminous substances of meat was present in an insoluble but finely-divided condition. We obtained, however, a cold water extract which proved to contain a notable quantity of coagulable albumin. The "paste" also contains fat. The flavour is good and therefore we may regard the preparation as both an acceptable and a highly nourishing food.

ASYLUM REPORTS.

Saint Andrew's Hospital for Mental Diseases, Northampton (Annual Report for 1899).—The average number of patients in the institution during the year was 377, comprising 186 males and 191 females. The admissions numbered 103, 35 being those of males and 68 those of females. Of these 19—viz., 6 males and 13 females—were re-admissions. The number of admissions has continued to increase steadily for the year 1899, as compared with 86 for the previous year and 73 for the year 1897. During the year 36 patients were discharged as recovered—viz., 14 males and 22 females—a total of 9·5 per cent. of the average number resident. The deaths during the year amounted to 22—viz., 17 males and 5 females—a total of 5·8 per cent. as calculated on the same basis. Mr. Joseph Bayley, the resident medical superintendent, states in his report that "the death-rate on the male side of the hospital has again been high, 17 out of 22 deaths having occurred on that side. ..... Two male patients were found dead in bed, and both these cases happened within a week of each other and under similar circumstances. ..... Post-mortem examinations showed that death in both these cases was the result of heart disease." Notice was sent to the coroner and an inquest was held on the second of these cases and a verdict of "Death from heart disease" was returned. Two accidents with fractured bones, one a fracture of the knee-cap and another of the femur, occurred on the female side. Both patients made good recoveries. Of the deaths during the year two each were due to phthisis, cardiac disease, and cancer respectively, three to general paralysis of the insane, the same number to acute mania, and four to senile decay. Early in the year the committee of management made an order that after March 31st no persons should be employed in the hospital or in the houses belonging to it who could not produce satisfactory evidence that they (and the residents in their houses) had been vaccinated. Seven persons refused to comply with this rule and resigned their situations. A fire broke out in the kitchen and extended to the roof, but was extinguished by the fire brigade without serious results Plastering and other alterations on the male side which have long been delayed by a strike of the plasterers are now completed. The new house for the boilers and electric light apparatus, engines, dynamos, &c., is now completed. The financial condition of the hospital continues to be very satisfactory, but there is a loss of £115 on the farm. The general health of the establishment is good, and with the exception of one case of measles the hospital has remained

free from epidemic or zymotic disease. The Lunacy Commissioners state in their report that the hospital and villas are maintained in excellent order.

West Sussex County Asylum, Chichester (Annual Report for 1899).—The number of patients on the books at the beginning of the year 1899 was 466. The average number resident during the year was 478 patients, and comprised 217 males and 261 females. During the year 100 cases were admitted—viz., 39 males and 61 females. Of these five—viz., two males and three females—were cases of re-admission. Mr. H. A. Kidd, the medical superintendent, states in his report that the causes tending to inflate the admission rate of West Sussex patients during the first year or two after the opening of the asylum have now ceased to exist. "But unfortunately there has been an increase of 20 in the numbers on the female side, and although there is but one female in the building not belonging to West Sussex there are already 15 patients in excess of the number of beds originally provided. The extensions which have been planned and which are now being carried out will provide 200 extra beds for females and 100 for males, and may possibly be ready for a partial occupation at the beginning of next year. By that time," says Mr. Kidd, "it is to be feared, the difficulty of providing accommodation for female patients will have become very acute." The character of the admissions, regarded from the point of view of recoverability, was even worse than during the previous year. Thus, of the 100 patients admitted recovery was considered reasonable probably only in 25 cases—viz., in those of 14 males and 11 females. "These are the cases for whom the institution is strictly a hospital. They afford scope for energetic treatment directed to the improvement of the physical ill-health ..... and to the cure of the mental disorder which needed certification and removal from home." Among the cases regarded as hopeless of recovery were those of 10 patients whose mental breakdown was consequent on senile brain degeneration and 11 congenital cases—patients who had either been born with defective brains or whose brain development had been arrested in infancy. Seven of the admissions were cases of general paralysis and five of the patients were in the last stage of mental decay. Dealing with the causes producing the mental diseases it was ascertained that heredity was a predisposing cause in 41 per cent. of the cases, alcoholic excess was ascertained to be the cause in 14 per cent., and several cases were traced to influenza. "The tendency to nervous breakdown following this very troublesome disease emphasises the great importance of careful treatment continued after the primary attack, even though slight, is past." In 23 instances there had been previous attacks of insanity. Among the moral causes the adversities and trials of life, emotional excitement, and domestic or business worries accounted for 26 per cent. of the cases. 35 patients were discharged as recovered during the year, or 7·5 per cent. of the average number resident. There were 32 deaths during the year, 18 being males and 14 females, or 6·7 per cent. of the average number resident. Necropsies were made in every instance and the fact that a bedsore was discovered in a single instance only is practical evidence of good nursing. Of the deaths during the year two were due to pneumonia, four to influenza, four to phthisis, three to general paralysis of the insane, seven to senile decay, and eight to organic brain disease. At the outbreak of the war in South Africa more than half of the male staff were reservists, and in the first week after the calling out of the reserves seven attendants left to join the colours. It was decided by the committee that their places should be kept open for the men while on leave. "The work of filling up satisfactorily the gaps so suddenly created in the staff has been a difficult and anxious task." The casualties during the year included fractures of the arms in two female patients and a fractured femur in a male patient. An epidemic of influenza occurred just after Christmas, about 50 patients being affected. A case of diphtheria occurring in the wife of an employé was treated in the sanatorium. 76 per cent. of the men and 85 per cent. of the women are occupied in some form of work or employment. Additions and alterations involving an expenditure of £236 have been carried out in the general stores, the butcher's shop, the laundry, and the wards. Improvements have been made in the electric light supply. The working of the farm shows a credit balance of £333. The Lunacy Commissioners in their report state that the case books are kept with care and intelligence and that pathological work is carried on.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE annual meeting of this association was recently held under the presidency of Dr. FLETCHER BEACH.

On the morning of Thursday, July 26th, the officers and council for the ensuing year were elected and the reports of the Parliamentary and Education Committees were read and adopted. Seven ordinary and three honorary members were elected. It was also resolved that a copy of the following resolution should be sent to the Local Government Board in the three kingdoms: "It is the unanimous recommendation of the Medico-Psychological Association of Great Britain and Ireland that in union workhouses in which insane persons are detained a properly qualified and trained mental nurse should be employed in the insane wards."

In the afternoon Dr. SPENCE vacated the presidential chair, which was taken by Dr. FLETCHER BEACH, who delivered his presidential address. After referring to the losses which the association had sustained by the deaths of some prominent members during the year he gave an account of the progress which had been made in the treatment of certain defective classes of society, such as idiots, imbeciles, the feeble-minded, the epileptic, and juvenile delinquents, during the last 60 years. He described the labours of Séguin, who was the originator of the system of educating and training idiots and imbeciles which is now in use, as well as of Saegert and Guggenbühl, who were pioneers in the work. He then traced the progress of educating and training idiots and imbeciles in England and described the way in which the Earlswood and other charitable asylums were erected, as well as the one for paupers at Darenth. Reference was also made to the institutions which have been built in Scotland and Ireland. An account was then given of the progress of the work in America from the time of the opening of the Massachusetts and New York Asylums for Idiots in 1848 and 1851 respectively, down to the present time, and it appeared that there are now no less than 19 States which maintain 24 public institutions, providing accommodation for 8492 inmates. An account was also given of the provision made in France, Germany, Denmark, Norway, Switzerland, Austria, and other European States, in our colonies, and in the Argentine Republic for this class of cases. Dr. Fletcher Beach fully described the way in which the education of feeble-minded children originated in England from the time when the British Medical Association first in 1888 appointed a committee to inquire into the subject to the present day. Full credit was given to the labours of Dr. Warner and of various committees which have inquired into the subject, and it was stated that the Childhood Society now carries on the work. Reference was made to the Departmental Committee which was appointed to inquire into the systems now in force for the education of feeble-minded children, and a short account was given of the Elementary Education (Defective and Epileptic Children) Act which was subsequently passed. The labours of the National Association for Promoting the Welfare of the Feeble-Minded were also referred to, and it was shown that England, in spite of the work of the London and other school boards who have established special classes, is still far behind many continental countries. The provision made for epileptics was described, and it was shown that it is only in recent years that accommodation has been specially made for the sane and insane patients of this class. In providing for epileptics, as well as for idiots, imbeciles, and the feeble-minded, England has lagged behind, but it is satisfactory to know that there are now three colonies and there will soon be a fourth for sane epileptics, and that the Chorlton and Manchester and the Leicester Boards of Guardians, as well as the London County Council and Lancashire Asylums Boards, are about to erect colonies for the epileptic insane. A short account was then given of the way in which juvenile delinquents are now treated, from which it appeared that it was not until 1854 that reformatory treatment of criminals was substituted for retributive punishment. In 1896 there were 50 reformatories and 141 industrial schools, accommodating altogether about 22,000 youthful offenders.

Dr. WYNN WESTCOTT, coroner for North-east London, and

President of the Society for the Study of Inebriety, then read a paper entitled Inebriety, its Causes, Results, and Treatment. He reviewed the present opinions on the causation of inebriety and especially the question of inherited tendency to the drink-crave, touching upon the debated point of the possibility of inheriting an acquired inebriety. He pointed out the follies of the numerous claims to the cure of inebriety by secret medicines and processes and expressed his confidence in the treatment of inebriates in licensed reformatories by recognised therapeutic means.—The paper was discussed by Dr. FORMAN, vice-chairman of the committee of the London County Council for providing Inebriate Asylums, Dr. MORTON, Dr. HEYWOOD SMITH, Dr. ARCHDALL REID, Dr. STEWART, and others.

On Friday morning, at 10 o'clock, Mr. HAYES NEWINGTON exhibited and described the Plans of the new East Sussex Asylum, in which a hospital for 250 cases is a prominent feature. Provision is also being made for 60 idiot children in a separate building. Some villas were being built for the accommodation of male cases and it was intended to erect more as time went on.—The paper was discussed by Dr. CLOUSTON, Dr. ROBERT JONES, Dr. TURNBULL, Dr. MERCIER, and others, and Mr. NEWINGTON replied.

The rest of the morning was devoted to lantern demonstrations by Dr. ORR, Dr. COWEN, Dr. G. A. WATSON, Dr. BARRETT, and Dr. J. TURNER by which the Morbid Anatomy of General Paralysis of the Insane, Juvenile General Paralysis, Lepto-meningitis, and alterations produced by Disease in the Giant Nerve-cells of the Cortex were fully pointed out and it is evident that some of the younger members of the association are doing good work.

Dr. SHAW BOLTON exhibited some naked-eye preparations and specimens from the Museum of the Pathological Laboratory of the London Asylums at Claybury and Dr. CLOUSTON showed for Dr. FORD ROBERTSON a microscopical demonstration of the Normal and Pathological Histology of Mesoglia Cells.

In the afternoon Dr. BRUCE read a paper prepared by himself and Dr. ALEXANDER on Observations upon the Various Physical Changes in the Acute and Sub-acute Stages of Melancholia in which he pointed out that among other changes there was increased blood-pressure and a decreased excretion of urea and urine in the acute stage and not such high pressure and more abundant excretion of urea and urine in the sub-acute stage. In the acute stage the blood-pressure should be reduced by, among other remedies, rest in bed and vapour baths.—The paper was discussed by Dr. CLOUSTON, Dr. MICKLE, and others and Dr. BRUCE replied.

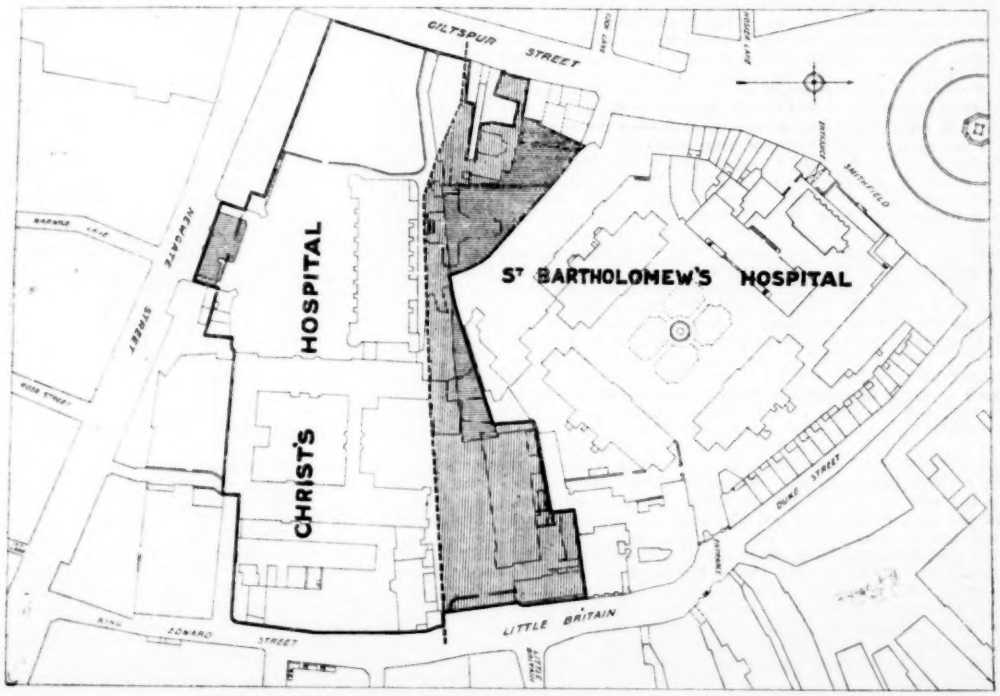
Mr. BEADLES read a paper on the Insane Jew, in which it was mentioned that general paralysis was common among Jews but epilepsy was rare.

Papers were afterwards read by Dr. SULLIVAN on Alcoholic Homicide, Dr. BLAIR on Non-diabetic Glycosuria, Dr. SHOYER on an Angeioma of Broca's Convolution in a Lunatic, and by Dr. EDRIDGE-GREEN on Psycho-physical Perception, but want of space prevents a description of them being given.

The annual dinner was held on Thursday evening, July 26th, at the Whitehall Rooms, Hôtel Métropole, at 8 P.M., the President, Dr. FLETCHER BEACH, being in the chair. On Saturday the President and Mrs. Fletcher Beach were "At Home" to members and their friends at Kingston Hill. Fortunately the atmospheric disturbance of the previous day had passed off, and the re-union of members and their friends brought to a close a very successful meeting.

ST. BARTHOLOMEW'S HOSPITAL AND CHRIST'S HOSPITAL.

THE accompanying plan shows very clearly the areas at present occupied by St. Bartholomew's Hospital and Christ's Hospital respectively. The land that St. Bartholomew's Hospital desires to acquire lies immediately on its southern boundary, being all that part of Christ's Hospital north of the broken line drawn from east to west across the plan. It is 1 acre 1 rood and 29 poles in extent. In the year 1819 Christ's Hospital was pressed for space and at their request St. Bartholomew's Hospital then gave up to them in exchange for other property a considerable part of the identical land that the latter now wishes to re-acquire. The authorities of St. Bartholomew's Hospital did not then foresee the urgent need that would subsequently arise for most of the very land which they were then parting with. That land is shaded horizontally. Almost the whole of the frontage that Christ's



Plan of St. Bartholomew's Hospital and Christ's Hospital with the area in dispute.

Hospital now possesses in Newgate-street was included in that exchange. The St. Bartholomew's minutes of the time record that the exchange was made for "the conveniency of Christ's Hospital" and that in assenting to it St. Bartholomew's Hospital was "actuated by the most liberal motives" towards that institution.

FACTORIES AND WORKSHOPS IN 1899.

II.[1]

No one can study the report of the Chief Inspector of Factories without being struck with the wide range of the work to be done by factory inspectors and the variety of the causes which make their work difficult to carry out effectively. That their duties are not limited to those most obviously suggested by the title "inspector" will be appreciated by all who remember that, as a rule, they have to conduct their own prosecutions. This necessarily implies being frequently pitted in a court of law against a skilled advocate accustomed to handle the tribunal before which he appears, while the tribunal itself may be composed of borough magistrates personally acquainted with the accused, themselves involved in similar trades and equally liable to inspection and prosecution. In an extreme instance (given at p. 247) a Bench mainly composed of local fellow-traders refused to convict in spite of the plain meaning of the Act, and in spite of the opinion of the stipendiary magistrates present that on the facts disclosed in evidence there was no possible alternative, the Bench finally refused to state a case for the opinion of a higher court in face of the authoritative demand of the representative of the Attorney-General for Ireland. That this should occur in the distressful country is not surprising, although it is a little disconcerting to those concerned in such prosecutions to find the compulsory protection of the working poor against the dangers of labour treated as another injustice to Ireland.

A glimpse of the difficulties attending the enforcement of Factory Acts in extreme cases may best be given by quotation from the report of Miss Deane, one of two lady inspectors temporarily employed during the past year in Donegal. "The struggle in which we found ourselves engaged," she writes, "involved a study of Irish law procedure which cannot but be invaluable to us, and has been carried on with a courage and tenacity which can only be described as dogged on the part of Miss Squire, who has lived for the most part practically under police protection, and who was much cheered by the undoubted sympathy and gratitude of the peasants on whose behalf she fought. ..... Nothing but a saving sense of humour could alleviate the misery of the long car drives of 18 and 20 miles which I took at 5.30 on dark and stormy mornings in November and December in pouring rain to fetch witnesses to the courts, no car-driver in the neighbourhood being available or willing to incur the consequence of aiding 'the Government' by bringing in the witnesses." It is consoling to read the above reference to the gratitude of the peasants on whose behalf all this was done by two ladies who, in the course of the year, travelled 9916 and 8518 miles respectively, but it is also possible to think that in cases of difficulty in which a great deal of time and labour are likely to be expended legal assistance should be afforded to the inspector who, whether man or woman, probably has not too much time in the year for the efficient performance of the primary duty of inspection.

The report of the medical inspector, Dr. T. M. Legge, is the last one given and is naturally one of the most interesting and one of the most important. Nearly half of it is occupied with particulars and comments bearing upon the existence and prevention of lead poisoning. This is not surprising when the numerous industries are taken into account in which lead poisoning may occur. We have spoken of the use of lead in the glazing of earthenware and of the possibility of the danger from its use being lessened in the future either by the observance of the precautions prescribed by the Home Office or by other processes of glazing being substituted for it, and we note another instance of the disuse or improved use of a dangerous substance in the case of glass polishing with putty powder. Putty powder, it is stated, has been dispensed with altogether in certain kinds of work, but as nothing else at present imparts the same brilliancy, putty powder is still used for certain high-class work, such as the polishing of lenses, but it can be and is mixed with wax or pitch which prevents "splashing." In addition, however, to the danger arising from the actual smelting of lead, the manufacture of red and white lead, and the manufacture of china and glass, it must be remembered that lead poisoning has occurred in ironworks and has to be guarded against, to give some instances, in file-cutting, printing, tinning and enamelling hollow ironware, and enamelling iron plates, in several of the processes connected with the manufacture of electrical accumulators, in various kinds of painting and in the employment of red and white lead, as, for example, in shipbuilding yards. Lead-poisoning is also one of those dangers in which the precautions to be taken do not only rest with the employers but in which the apathy of the workers themselves has to be contended against. As to this Mr. E. H. Osborn, the "engineering adviser," has an interesting note. He writes: "I have been much struck with the variations of the personal factor among the workers in this manufacture; of course, similar dissimilarities are to be found in all industries where so much depends upon personal care, cleanliness, and common sense, without which no code, however searching, can secure its fair success. I noticed a marked contrast between the workers on the opposite sides of the Tyne in these respects. ..... It is odd, too, that personal neglect is more usual among women than among men. This seems of almost universal application in the scheduled trades." Mr. Bond, certifying surgeon of Poole, writing apparently of female decorators in china works in Dorset, says: "I attach the greatest importance to constant and incessant supervision, a doctrine very repugnant to the workers who entertain a great regard for the liberty of the subject."

To pass to other topics dealt with in the medical inspector's report we find interesting notes from Mr. Farnfield, dentist to the Diamond Match Company, Liverpool, on the work done by him. He found about 6 per cent. of those who needed treatment before proceeding to work were prevented either by their own fears or by the ignorance of their parents from availing themselves of his services, and he continues: "With regard to the new hands I have passed 554 into the phosphorous rooms and 271 into the box-room, rejecting altogether 40 per cent. of those examined from bad teeth and gums. They were mostly in a very dirty state, few ever having cleaned their teeth prior to entering the factory. This makes it difficult to determine during a brief inspection the number of fillings they require, but I have noted down 869 fillings and 604 extractions, or, allowing for omissions, an average of two fillings and one extraction for those admitted into the phosphorous rooms and 601 fillings and 739 extractions, or an average of three fillings and three extractions for those to the box-room. ..... The greatest difficulty is at present in getting the requisite number of boys, as their teeth are mostly in a very bad state, and it is very difficult to persuade the average lad of 14 years to trouble at all about them." It will be recollected that the same difficulty occurs in the obtaining of suitable recruits for Her Majesty's army and navy, and it may be suggested that if the compulsory use of the tooth-brush were instituted in public elementary schools it might be classed by some under the heading of "grandmotherly legislation," but it is no more "grandmotherly" to make a child brush his teeth than to compel his parent engaged in a dangerous manufacture to wash before eating or to wear a respirator.

Among other matters dealt with by Dr. Legge we note that he gives the rules in force in the German empire for the prevention of anthrax from handling hair and bristles, as requiring the disinfection of all material not liable to serious damage by such processes as follows: either (1) by the action for at least one half-hour of current steam under a pressure of 1·15 atmospheres; (2) by boiling for at least one quarter of an hour in a 2 per cent. solution of potassium permanganate and subsequent bleaching in a from 3 to 4 per cent. solution of sulphurous acid; or (3) by boiling in water for at least two hours. In order to make the steam process effective, Dr. Legge points out, the bales must be opened—in itself a task involving some danger. Attention is called on another page to the frequent occurrence of tetanus, where workers in jute mills have met with injury; with regard to this Dr. Legge suggests that the soil in which the jute is grown may be particularly rich in tetanus bacilli and states that inquiry is being made in India as to the incidence of tetanus among jute workers there. The usual complete tables are appended to the reports upon which we have commented.

[1] No. I. was published in THE LANCET of July 28th, 1900, p. 285.

THE LANCET.

LONDON: SATURDAY, AUGUST 11, 1900.

IT has been a pleasure to us to report with some fulness the proceedings of the First International Congress on Medical Ethics or Deontology held in Paris, and extending over four days, beginning on July 23rd. Our Special Commissioner has done much by his investigations into the state of medical organisation in Great Britain and in several foreign countries to prepare the way for this Congress, and all the subjects dealt with are of particular interest to our readers. The ethics of medicine are as old as HIPPOCRATES, if they are not older, and it is a proof of their strength that they have for so many ages been recognised and more or less acted on by members of the profession in every part of the world. Of late years, owing to great changes in society and in the organisation of its various classes, it has appeared to many that more definition of ethical principles and a completer organisation of the profession are necessary for the guidance of its members that they may maintain their high position in the esteem of mankind. Accordingly various societies in different countries have been instituted for the purpose of defining, declaring, and enforcing these principles. Most of these societies have arisen out of voluntary effort. Others, as those in Austria and Germany, have been established by law and have been endowed with strong disciplinary powers over all members of the profession. A Congress at which representatives and delegates from the principal of these societies were present must have a powerful effect in helping medical men to assert the claims of the medical profession and to uphold its dignity in their several countries.

The foundation of medical ethics rests on the fact that the relations of the medical profession to society and to its individual members are so serious and confidential as to necessitate a special code of conduct for medical men, while the dignity of the profession depends on the degree to which its individual members respect themselves and respect each other. Dr. GRASSET quoted DESCHAMBRE as saying that for medical dignity to be respected the medical man must first be imbued with the sentiment of self-respect. And he developed this sentiment admirably by saying: "The medical man will first seek to honour his profession by honouring himself. Placing himself beyond the possibility of reproach he will pay every deference to his colleagues and be guided by the sentiment of duty and honour, not by the desire of material gain. If the public are to respect medical men the latter must first respect each other." If such principles could be implanted in all medical men there would be little need of medical organisations, voluntary or statutory, to enforce them. They do exist and are operative in a large majority of the profession, but the question raised in the Congress is, How are we to deal with those who have little or no sense of such principles and how shall the profession be protected from those members of it who are blind to the way of honour and who put their own individual interests above the dignity and interest of the profession? The answer to this question is twofold. First, we must make sure that all medical men know their duty to their profession; and secondly, we must find some means of gently compelling them to do it. It was amply recognised at the Congress that many erring members err from want of knowledge and of thought. There is no adequate teaching of medical morals either in the books or in the schools of medicine. They are taken for granted. Several speakers urged that the subject should be dealt with and taught in the medical schools; others that it should be more fully discussed in books. But there was a general agreement that in all countries and localities there should be an organisation charged with the defining of medical duty in relation to difficult circumstances or new questions. In regard to ethical matters the opinion of men of repute in the profession on questions of conduct has a certain weight, on the strength of which penal or disciplinary measures may properly be taken. The General Medical Council acts on this principle in Great Britain, and its action has been amply supported by courts of law. In Austria and Germany, as we have seen, Chambers have been established by law having, in cases of misconduct, power to fine, or even to take away the right of practice. But it is obvious that such extreme powers must be reserved for extreme offences and that short of such offences voluntary and persuasive means of remonstrance must be chiefly relied on. Even in autocratic Austria Dr. ADLER showed that the powers of the Medical Chamber are not absolute but are controlled by the local government authorities, which may rescind the action of the Chamber when it goes too far.

Dr. DE GOUVÉA of Rio Janeiro showed that medical ethics were at a low ebb in that beautiful capital till the formation of a medical society in the city. This produced good effects which led to the formation of other societies throughout Brazil. Dr. ERNEST JENDRASSIK of Budapest gave a most encouraging account of the work of a medical union which Hungarian practitioners have formed, preferring this to the Medical Chambers created by law in Germany and Austria. It has collected statistics and is seeking to fix minimum fees for insurance work and for medical contract work; it has also established a benefit fund, but its fundamental purpose is to abolish "undercutting." Dr. HANSSON of Christiania showed that the Norwegian Medical Association had dealt with the question of sick club practice, and had laid down the principle that the post of medical officer was not to be accepted unless with the consent of the local branch of the Association. Such reports as these from different parts of the world, while they testify to the value of the Congress, show the variety of opinion prevailing and the need for patience and breadth of judgment. The time has not yet come for an international code of medical ethics. The proposal for a committee to draw up such a code did not take definite form but remained as a pious wish. None the less the Congress has done and will do great good by

ventilating opinions and schemes and by showing that in all countries the same problems are pressing for solution by the medical profession.

THE Presidential Address on the Prevention of Insanity delivered at the opening of the Section of Psychology of the British Medical Association by Dr. PERCY SMITH points out what must be the main lines of advance and attack in dealing with the problem of insanity—viz., the necessity of the checking or prevention of insanity at its sources. The increase of insanity during the past decade has stirred thoughtful minds profoundly. The sociological study of mental disease in relation to the ancestry, collaterals, and descendants of lunatics, the pathological investigation of the morbid conditions present in insanity both during life and after death, and, finally, the study of the annual reports dealing with the care and treatment of the insane in our public and private asylums, must have tended to convince many that progress in the future must be sought in prevention of insanity at its sources. This has been, and always must be, the first and most practical aim of medicine generally, but it would appear that in the province of psychiatric medicine the importance of the principle has not yet been sufficiently realised. For under existing conditions the alienist has been confronted with two main problems—viz.: (1) the classification, housing, and treatment in large public institutions and on a large scale of patients suffering mainly from chronic insanities and allied infirmities of an incurable nature; and (2) the special study and treatment—on the "hospital" system and on a small scale at present—of the acute and curable insanities. With his hands in this way filled he has not had as much leisure as is desirable for considering the prevention of insanity.

The annual report of the Commissioners in Lunacy states that on Jan. 1st, 1899, the total number of lunatics in England and Wales was 105,086, "being an increase on the corresponding number on Jan. 1st, 1893, of 3114, the largest annual increase we have yet had to record." This increase, Dr. PERCY SMITH points out, refers to all classes of patients. The same report shows the following ratios of insanity in England and Wales. In 1869 the ratio was 1 to 418 of the general population, in 1879 it was 1 to 383, in 1839 it was 1 to 337, and in 1899 it was 1 to 302. In Scotland the ratios were as follows: in 1881 the ratio was 1 to 374 of the general population, in 1891 it was 1 to 320, and in 1899 it was 1 to 278. In Ireland the figures were as follows: in 1871 the ratio was 1 to 328, in 1881 it was 1 to 281, and in 1899 it was 1 in 222. The increase of the insane in proportion to population is thus maintained throughout the United Kingdom and is both significant and sinister. The numbers of the insane increase and the county and borough authorities are constantly being confronted by the demand for more accommodation in county and borough asylums. New asylums spring up as the result and the taxpayer has constantly to put his hand in his pocket to defray expenses.

The causes which underlie this condition of things are manifold, but Dr. PERCY SMITH draws attention to three items which may be specially considered—viz., first, the propagation of the race by those of insane inheritance or by those who have suffered from insanity; secondly, the influence of alcohol in the production of insanity and the need for preventive legislation; and, thirdly, the causation of general paralysis by syphilis. Heredity, alcoholism, and syphilis are all potent factors in the causation of insanity. Whilst it is unlikely that the legislature will intervene to place any legal bar to the marriage of individuals of insane inheritance, much may be hoped for from the education of public opinion regarding the baneful effects of heredity in the offspring of parents afflicted with a taint of insanity.

As regards the marriages of congenital imbeciles, chronic epileptics, or those who have been the subjects of one or more attacks of insanity there can be little doubt that prohibitive legislation would be both desirable and even necessary where the welfare of the community has to be considered. Alcoholism is a factor of prime importance in the causation of insanity. The intoxication of married couples on the wedding night has, by quite unimaginative observers, been believed to result in the production of offspring suffering from imbecility and other forms of cerebral disease. The offspring born of parents addicted to chronic alcoholic habits are often known to be afflicted with hereditary drink-craving, grave hysteria, epilepsy, imbecility, and other forms of cerebral and mental disease, the classical works of MOREL, DEJERINE, LEGRAINE, and others furnishing innumerable instances. Similar evil effects are known to follow in those addicted to absinthe-drinking or to the morphia habit, and the deleterious influence is liable to affect the offspring as well. No doubt in many cases the alcoholic is a person who starts life with an unstable nervous system and to a certain extent he is *ipso facto* defective in self-control and goes without much resistance into the paths of chronic alcoholism. But his paths thither are rendered smooth by the great facilities afforded for drinking. The Inebriates Act of 1893 and the new powers for dealing with convicted inebriates, "though almost a dead letter at first in consequence of the supineness of local authorities," says Dr. PERCY SMITH, are now effective and mark the first step in a new legislative departure. The presence of alcoholic intemperance as a cause of insanity may be traceable in about 25 per cent. of all male admissions to asylums, and even those who hold the liberty of the subject so sacred as to wish to leave the alcoholic to drink himself to organic disease and madness and his family to poverty and suffering might turn their attention to the fact "that nearly a quarter of the insane are so, either wholly or in part, from a preventable cause, and that in a large proportion of these cases the ratepayer has to bear the expense."

There can be no question that acquired or congenital syphilis is one of the most potent causes of general paralysis of the insane. Dr. PERCY SMITH also points out that the general paralytic subject can transmit the disease to his children, for during the last few years cases have been recorded of "juvenile general paralysis" in nearly all of which a history of parental syphilis was ascertained and in several of which the father had previously died from general paralysis. If syphilis were made a notifiable disease a first step, Dr. PERCY SMITH thinks, would be taken towards diminishing its fatal sequel in paralysis, but the difficulties of procedure are here well-nigh insurmountable. In

Finland, it is true, as the result of the legislature enabling the compulsory examination and treatment in hospital of suspected individuals, syphilis has much diminished in the course of 20 years; congenital syphilis has become less frequent, and both the hereditary and acquired forms of syphilis have become of much milder type. Finland is not Great Britain, and public opinion is not with us ripe for legislation on this point.

Some of the factors in the production of insanity are capable of being dealt with by way of restriction or prevention. The ravages of alcoholism, the contagion of tuberculosis—a known and potent cause of idiocy and imbecility in the offspring of affected parents—and the marriage of congenital imbeciles, chronic epileptics, and persons who have had one or more attacks of insanity, all these offer themselves for the application of preventive measures. The free and unchecked production and propagation of the lunatic, the idiot, the imbecile, and the neuropath constitute a serious and growing danger to the safety of society, a menace to its public health, and a burden to its resources.

A REPORT upon the condition of the London burial-grounds[1] which the London County Council has just issued deserves more than passing notice from us, for it deals in a practical way with a subject of great concern to the public health, one that is more than any other surrounded by feelings of religious sentiment. The report consists in the main of an excellent account by Dr. C. W. F. YOUNG of burial-grounds in which the London dead are interred, and of an introductory statement by Mr. SHIRLEY MURPHY, who indicates the conclusions at which he has arrived and the course which he thinks should be adopted with a view to bring the method of disposal of the dead into better harmony with health requirements. The report is the outcome of a resolution (adopted by the London County Council at the instance of Mr. SHAW-LEFEVRE) that inquiry should be made as to the condition of the burial-grounds chiefly used by the population of the County of London, as to whether further provision for burial is required, and whether further regulation is necessary in the interests of public health and decency. The information, therefore, which the report supplies is directed to answer these questions. So far as quantity of accommodation for the London dead in existing burial-grounds is concerned it does not suggest any doubt that for the immediate present there is ample provision; but it does indicate, and that very definitely, that the instruction of the London County Council has come none too early. The representatives of London on its County Council, as well as in the Imperial Parliament, should take into serious consideration without undue loss of time the course to be adopted for the disposal of the 100,000 corpses and more which annually have to be provided with resting-places.

The whole trend of the report is towards one conclusion. The inhabitants of London must determine whether the system of interment which is to be practised in the future is to aim at the preservation of the dead as in the past or at the speedy dissolution of all human remains. Upon this question the medical officer of health of the County of London has no doubt. His verdict is that every opportunity should be given for speedy dissolution, and he holds that no new brick graves and no new vaults should be provided in London. Beyond this he points out the advantages that would result from some local representative body having the power to make regulations which could be strengthened from time to time and which would determine the conditions under which interment should be carried out. Public opinion is evidently, as the report shows, moving in the desired direction, but it moves slowly. The wish to preserve as long as possible the remains of those who in life have been loved governs the usual method of interment, while inseparable from this sentiment is the interest of the undertaker. Neither change in sentiment nor change in practice can be suddenly effected, but change would be more speedily brought about if there were guidance by regulations made by those who are in touch with popular feeling and if trade interests could be eliminated by the vesting of all burial-grounds in public ownership. The teaching of Sir SEYMOUR HADEN and of Dr. VIVIAN POORE cannot longer be disregarded. Their work, and especially that of Sir SEYMOUR HADEN, has shown how speedily the earth does its duty when man does not by artificial methods prevent nature from accomplishing her final object, the resolution of organic matter into its ultimate elements. The question which remains is how this teaching can be adopted in the disposal of thousands of human bodies with due regard for the feelings of the survivors and with due regard to the conditions existing in centres of population.

The report points out the unsuitability of clay soil for the purpose of burial, and Dr. YOUNG discusses fully the results obtained under different conditions. Mr. SHIRLEY MURPHY hesitates to accept surface burial as a practical solution of the difficulty without more experience, but he definitely indicates the need for the experiment of surface burial to be made under proper conditions. There should be some opportunity for this to be done soon, inasmuch as the control of burial-grounds has been transferred by Parliament during the present session from the Home Office to the Local Government Board, showing that the matter is intended henceforth to be considered especially in its sanitary relations. The report published by the London County Council sets out the issues well and we are interested in the manner in which it will be received. At a later date we shall discuss in more detail the various questions which it raises.

[1] Sanitary Condition of Cemeteries and Burial-grounds: A report by the medical officer of health presenting a report by Dr. C. W. F. Young, assistant medical officer of health, as to the condition of the cemeteries and burial-grounds chiefly used by the population of the County of London, as to whether further provision for burial is required, and whether further regulation is necessary in the interest of public health and decency. London: P. S. King and Son.

Annotations.

"Ne quid nimis."

THE POSITION AT THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

WE publish in another column a further communication from the medical staff of the National Hospital for the Paralysed and Epileptic, Queen-square, and we share with them the surprise which they express in their opening sentence. Apparently to-day (Saturday, August 11th) has been fixed by the board of management for an official

general meeting of governors and subscribers "to consider and determine the following questions—that is to say (1) whether the demand of the medical and surgical staff for direct representation upon the board should be granted; and (2) whether it is desirable to hold a further inquiry into the condition of the hospital." If, as we desire to believe, the persons who have selected this date to make such an inquiry are serious in their intention that the whole truth shall be known, and in their determination to put an early end to a most unfortunate situation, they have taken a very extraordinary course, for we agree with the medical staff that no decision arrived at on August 11th can be regarded as final. The whole matter must be reopened at a meeting summoned at an appropriate time when the various points at issue can be placed fully before the governors. If the misunderstanding between the board of management of the hospital and the medical staff was one that turned upon the insufficient washing of draw-sheets, or even on the scope of the secretary-director's control, then in the general interests of the hospital and of the public, the quickest method of procedure might be the best, simply because it was the quickest. But in this quarrel is involved the whole question of the position of an honorary medical staff towards their hospital. Are medical men when giving their services to these charities to be treated simply and solely as the irresponsible servants of the board of management? Is their complete duty to the public discharged by being blindly obedient to that board in all matters outside the actual prescribing for the patients? The payment, again, by out-patients of money in return for services rendered to them by the honorary staff of a hospital is a procedure so open to abuse that the advisability of a charity adopting it ought to be very closely looked into. All these are large questions and should certainly not be dealt with by a hastily convened meeting in the deadest season of the year.

THE TENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

THE final programme of this Congress has just been issued and we are informed that a preparatory meeting will be held at the Faculty of Medicine of Paris this (Friday) morning, August 10th, at 10 o'clock. The Prime Minister, M. Waldeck-Rousseau, will preside over the opening ceremony at 3 P.M. in the great amphitheatre of the Faculty of Medicine. The sections will meet on Saturday at 9 A.M. and the members will visit the Pasteur Institute at 3 P.M. On Sunday, August 12th, there is to be an excursion in the afternoon to Achères, where a portion of the sewage of Paris is utilised for agricultural purposes. The sections will meet every morning from Monday, August 13th, to Friday, the 17th. The afternoons will be devoted to excursions and receptions. On Monday afternoon the members will visit some of the hospitals, the sewers, the filtering-beds, the sanitary museum of the town of Paris, the Institute of Animal Vaccine, &c. On Tuesday afternoon they will be officially received at the Hôtel de Ville by the Paris Municipal Council. On Wednesday afternoon they will be shown some of the sanitary exhibits of the Exhibition. On Thursday afternoon there will be an excursion to the chocolate factory and model artisan village of M. Menier at Noisiel (Seine et Marne). On Friday afternoon, August 17th, the closing ceremony will take place. It had been arranged that M. Loubet, President of the Republic, would receive members of the Congress at the Palace of the Elysée on the evening of August 9th and that there would be a reception by the Prime Minister at the Ministry of the Interior on the evening of August 11th. The first and the second of these receptions have been postponed on account of the funeral of the late King of Italy, but there will be a garden party at the Elysée on August 10th in the afternoon. The private receptions, however, will hold good, and the first of these is given by the President of the Congress, Professor Brouardel, Dean of the Faculty, in the evening, on August 10th, at the Faculty of Medicine, where he has his official residence. On August 13th there will be a subscription banquet at the Auberge des Nations in the Old Paris Street of the Exhibition. For the excursions to Achères and Noisiel, as the number of places is limited, it would be well to apply early at the Faculty of Medicine, rue de l'École de Médecine. Here, in the salle Dubois, is the office of the Congress, where secretaries are in attendance daily to give all the information necessary. Members on arriving in Paris should at once proceed to this office, give their addresses, obtain their cards and insignia, and inscribe themselves for all the excursions, &c., in which they desire to participate. This office is open from 9 A.M. till noon and from 2 to 6 P.M. There is also a room set apart at the Faculty of Medicine for reading and correspondence which is at the disposal of members of the Congress. The wives of members are invited to assist at the opening ceremony and at all the receptions and excursions. It only remains to add that all persons interested in sanitary reform can become members of the Congress as it is open not only to medical men but to sanitary engineers, architects, municipal councillors, and all persons connected with some phase of sanitary work or administration. The entrance fee is £1, which should be sent to Dr. A. J. Martin, Secretary-General, 21, rue de l'École de Médecine, Paris. The Congress, as previously stated, is divided into eight sections, dealing with bacteriology, food-supply, sanitary engineering, childhood, industrial hygiene and unwholesome dwellings, military, naval, and colonial hygiene, international sanitary measures, and the sanitation of the means of communication, ships, railways, &c. These eight sections will meet at or near the Faculty of Medicine; therefore members had better secure rooms in or near the Latin Quarter. In the better class hotels, frequented by university students, rooms can be obtained for from 4*s.* to 5*s.* a day; and life in the Paris restaurants is as good and nearly as cheap as in ordinary times. It is desirable to secure rooms before starting. The Committee of the Congress also can recommend agencies which have undertaken to provide accommodation for the members at moderate and fixed prices.

JAUNDICE WITHOUT BILE IN THE URINE.

AT the meeting of the Société Médicale des Hôpitaux of Paris held on July 6th MM. Pierre Merklen and Janot showed a case of jaundice in which bile pigment was entirely absent from the urine, *ictère acholurique*. This condition has been only recently recognised—by M. Hayem.[1] In a communication entitled, "Special Form of Colouration of the Skin in certain Dyspeptics: Jaundice without Biliary Pigment or Urobilin in the Urine," he has called attention to a peculiar form of sub-icterus characterised by a chamois-leather tint of the skin, analogous to the xanthochromi observed by Besnier in certain cases of xanthoma, and specially marked in the palms and in the folds of flexure of the fingers. The colouration is certainly a form of jaundice, for in spite of the absence of biliary pigment from the urine the blood serum is tinged with it. The etiology and evolution are not clearly known. According to a second communication of M. Hayem[2] the sub-icterus develops slowly and insidiously, and once established persists, although it is subject to variations. It supervenes in certain dyspeptics presenting the characteristic signs of parenchymatous gastritis and is accompanied by neurasthenic

[1] Bulletin de la Société Médicale des Hôpitaux, May 14th, 1897.
[2] Ibid., March 24th, 1899; THE LANCET, June 3rd, 1899, p. 1506.

symptoms, fatigue, disinclination for work, emaciation, and nervous irritability and depression. The patient shown to the society corresponded completely to the type described by M. Hayem. She was a woman, aged 53 years, who had been treated for chlorosis since the age of 23 years and was subject since the age of 25 years to disseminated and erratic pains which corresponded to the clinical type of general neuralgia of Valleix or painful neurasthenia. For 18 months she had suffered from obstinate dyspepsia with furred tongue, fœtid breath, epigastric pains, constipation, and sometimes glairy stools. For three months there had been a yellow tint of the skin without biliary colouration of the conjunctiva or urine. The tint was of a chamois-leather colour, especially marked on the face, hands, along the crests of the tibiæ, and on the soles. It suggested xanthodermia rather than icterus. The mucous membranes were not coloured and the urine, which was examined on several occasions, never showed a trace of bile pigment. This was in favour of the diagnosis of xanthodermia but the presence of biliary pigment in the blood serum settled the question. Blood obtained by cupping was examined after the retraction of the clot. The transuded serum was of a light mahogany colour; it darkened all the spectrum from blue to violet and gave Gmelin's reaction. After the appearance of the discolouration of the skin the patient wasted, the constipation became more marked than ever, and the neurasthenia increased. Examination of the internal organs was negative; the liver was not enlarged and the fæces were neither bilious nor discoloured. The urine contained neither sugar nor albumin; it amounted to from 1000 to 1200 grammes in the 24 hours, was of specific gravity 1013, and contained about 15 grammes of urea. This oliguria was no doubt in relation with the dyspepsia, for the renal permeability was normal. The pathogenesis of *ictère acholurique* was disputed. MM. Gilbert and Castaigne thought that the acholuria was due, at least usually, to defect of renal permeability; but this case was opposed to that hypothesis. M. Hayem supposed that there was a slight infection of the biliary passages and too little bile pigment in the blood to pass the renal filter. In the present case the icteric tint diminished 10 days after the administration of sulphate of soda, in daily doses of 75 grains, which regulated the bowels.

THE WATER-SUPPLY OF THE CITY OF LONDON.

MORE than half a century ago Mr. (now Sir) John Simon, who was at the time medical officer of health to the City of London, strongly urged in his annual report that the supply of water for domestic use should be constantly instead of intermittently given. We regret to see that Dr. Sedgwick Saunders, the present medical officer of health to the City, in a report which has recently been issued, still finds cause to complain that the East London Waterworks Company has failed to carry out the statutory requirements which have been made that the water consumers in its district shall receive a constant service.

"In October, 1898," Dr. Sedgwick Saunders says, "I reported upon the absence of domestic cisterns in 89 houses at the following places—viz.: 29 in Bishopsgate-street Without, eight in Brushfield-street, four in George and Catherine Wheel-alley, one in Great Alie-street, two in Little Somerset-court, 20 in Mansell-street, 14 in Montague-court, 10 in Mason's-court, and one in Spital-yard.

The necessity for this provision arose from a scarcity of the water derived from the East London Water Company during the exceptionally dry summer season, the supply being only furnished for a limited time at certain periods of the day. The want of these receptacles for storing water occasioned much suffering in the poorer districts, owing to its intermittent delivery.

The Sanitary Committee at once recognised the importance of seeking action, and under the powers conferred upon them by the City of London Sewers Acts, 1848, 1851, gave an order that in all the above-mentioned dwellings cisterns should be erected without delay.

After much negotiation the owners of 59 houses supplied the deficiency without coercion, but in 18 instances it was not until pressure was put upon unwilling landlords by the issuing of 'compulsory' orders that this was effected. In five cases, however, the owners proved obstinate, and the Public Health Department was driven to the only alternative of ordering the works to be executed by its contractors, and in due course the defaulters will be sued for the cost thereof, as the law provides.

The question of doing away with cisterns in domiciles has exercised the minds of owners of house property and others, who argue that a 'constant service' ensures a purer supply of water; and so it certainly does when cisterns are improperly placed under inaccessible roofs or beneath floors without efficient protection from weather, dust, droppings of animals, or other sources of pollution; but if they are constructed in positions where they can be easily inspected and frequently cleansed we may concede the point, but it is only the commonest of common sense to insist upon some relief from the tyranny of the water companies, who, whilst charging the maximum of tax justified by inequitable legislation, give in return the minimum of accommodation in periods of water famine or when any accidental disruption occurs in their mains or other mechanical appliances; in other words, when the so-called 'constant service' becomes irregular.

What is the tenant to do under this contingency? The poor have neither the means nor the leisure to collect and store water for use during the intermissions of supply, and to them the want of water entails an amount of discomfort and uncleanliness that emphasises the bitterness of want and misery."

We do not propose to discuss in detail the various points raised by the paragraphs we have quoted from Dr. Sedgwick Saunders's report, but they naturally suggest one or two questions which are worthy of consideration. When a constant supply of water is given there is no need for cisterns, and water drawn straight from the mains is preferable for all domestic purposes. Under the present statutory regulations, as readers of THE LANCET know, all the London water companies are required to give constant service. This being the case, is it fair that the owner of a house in London should be out of pocket because a water company fails to perform its statutory duty? If a cistern be rendered necessary by the default of a water company, would it not be right that the cost of the cistern should be paid by that defaulting company? A metropolitan water company which fails to give constant service renders itself liable to heavy fines which can be inflicted at the instance of a metropolitan authority. Has the Corporation of London made any attempt to bring this moral pressure to bear on the East London Waterworks Company for its defaults? And if not, why not? Dr. Sedgwick Saunders gives no information on this subject. The City of London is chiefly supplied with water by the New River Company, to which Dr. Sedgwick Saunders in his report, no doubt inadvertently, does a considerable injustice by omitting to differentiate it from the "companies who, whilst charging the maximum of tax justified by inequitable legislation (i.e., charging the price settled by Parliament), give in return the minimum of accommodation." It is but simple justice to point out that the New River Company does not exact the maximum water-rents to which it is entitled, a fact which was clearly pointed out and duly emphasized by the City Remembrancer in the evidence which he lately gave before Lord Llandaff's Commission.

CYSTS IN THE ABDOMINAL WALL STRUCTURALLY IDENTICAL WITH OVARIAN CYSTS.

IN the *Boston Medical and Surgical Journal* of July 12th Dr. John Homans describes this curious and rare condition. When operating on a very old-standing enormous adherent ovarian cyst weighing 102 lb. he was surprised to find a large cyst in the abdominal wall in the epigastric region

entirely distinct from the ovarian tumour, but of the same character. Two months after the operation, when the patient was seen again, various cysts were scattered about in the abdominal wall. Microscopical examination of an excised cyst showed that it was a malignant cystadenoma of the ovary. The patient died suddenly soon afterwards, apparently from thrombosis. Olshausen mentions a similar case in which with an ovarian cyst there was a parietal cyst structurally resembling a glandular ovarian cyst. Dr. Homans makes no attempt to explain these cysts in the abdominal wall, but it cannot be doubted that they are secondary growths derived from the intra-abdominal ovarian cysts. Probably the infecting elements are conveyed to the abdominal wall through the medium of adhesions.

SANITARY PROGRESS IN SHANGHAI.

THE evolution of China is one of the most attractive problems in the study of nations, and while the Celestial Empire may at this moment be at the very parting of the ways as regards its future the influence which European methods of sanitation are exerting upon one of China's greatest cities will have at least some interest for the readers of THE LANCET. Dr. Arthur Stanley, the medical officer of health of Shanghai, in presenting his second annual report is clearly impressed with the desirability of not altogether shutting our eyes to certain aspects of the Chinese who, he maintains, "solved the question of economic sanitation long ago." While, he adds, "the ultra-civilised Western elaborates destructors for burning garbage at a financial loss and turns sewage into the sea, the Chinaman uses both for manure." As to this, however, Dr. Stanley is evidently alive to the risk of infection from specifically polluted vegetables which this method involves, although he thinks that to turn the sewage into the river from which the water-supply is derived would be an act of "sanitary suicide." He considers that by modern hygiene, coupled with what is best in Chinese methods, Shanghai might be rendered a particularly healthy place; but overcrowding is the greatest drawback to progress, and the price of building land is so great that Dr. Stanley is of opinion that were the inhabitants polled as to whether they would prefer a lowering in the death-rate or an increase of trade profit they would assuredly select the latter. The estimated foreign population of Shanghai is 5510, inclusive of about 1000 which number represents the average shipping population. The native population is 322,000. The general death-rate among the resident foreign population was, during 1899, 18·37 per 1000 and among the native population only 9·1 per 1000. It would seem obvious from this that the native deaths are not properly recorded and this notwithstanding the fact that the population contains an excess of young adults. As regards the prevention of infectious disease, voluntary notification is in force, and a new permanent isolation hospital is about to be erected. For the control of plague there is a sanitary station under the port sanitary authority, the Imperial Maritime Customs, while in connexion with enteric fever protective inoculation is to be provided for all those who are, by reason of age or opportunity, particularly prone to contract the disease. In respect of malaria it is of interest to note that during the summer of 1900 mosquitoes from different parts were examined but no anopheles were found; steps, however, are being taken to eliminate the breeding places of the mosquito. Small-pox was responsible for nine deaths among the foreign population and 183 among the Chinese during 1899, and in consequence of the disease assuming epidemic proportions in 1899 vaccination and revaccination were much resorted to. There should, Dr. Stanley thinks, be no trouble in persuading the Chinese to adopt vaccination, seeing that the East was the source from which preventive small-pox inoculation had its birth. He suggests that the missionaries might well preach vaccination and revaccination, and he is apparently in favour of some form of compulsion. There was an epidemic of beri-beri among the Chinese prisoners at Shanghai during 1899, and out of 47 cases there were 11 deaths. One of the most encouraging signs of progress is the establishment of a bacteriological laboratory at Shanghai in which bacteriological examinations of one and another type are made, and where plague and cholera prophylactics are manufactured. Aseptic calf lymph is also prepared at the vaccine station, and some 5000 tubes, sufficient to vaccinate 14,000 people, were produced during 1899. Medical practitioners are advised to keep the tubes in the dark and, in summer, in an ice chest. Progress has been made in the general sanitary condition of Shanghai during 1899, and we read of 346 Chinese houses having been drained and of new building by-laws having recently been adopted. Sanitary regulations have been drawn up, and also new dairy regulations, and there are also "regulations for shops supplying perishable food to foreigners." All meat supplied to foreigners must bear the municipal stamp—"killed, municipal slaughter-house." In short, Shanghai is to be much congratulated upon its progress in sanitary matters, and it is to be hoped that the "Boxers" will not be afforded an opportunity of retarding the march of modern sanitation in this city.

THE POSITION OF SUPERINTENDENT NURSES IN POOR-LAW INFIRMARIES.

IN our issue of Jan. 28th, 1899 (p. 251), we commented upon a paper read by Miss E. Julian, the matron of the Croydon Infirmary, upon the Need of Nursing Reform in Workhouse Infirmaries. The paper dealt mainly with the position of the under nurses and the difficulty which was experienced by the guardians in finding duly trained and qualified nurses ready to serve in workhouse infirmaries. Miss Julian, who is in a position to know her subject intimately, again took up her parable at the annual conference of the Matrons' Council held at 11, Chandos-street, W., on July 5th, the main part of her paper being devoted to the very anomalous position of superintendent nurses or matrons. This, Miss Julian says, is not remarkable—

"Seeing that this office exists in name only, the marvel is not that so few are available but that there are any at all, and this applies not only to the small provincial infirmaries attached to workhouses but to the large parish hospitals which are distinct from the workhouses and under separate administration. In the small workhouse infirmary the superintendent nurse is under the control of the master and matron; in the large parish hospital her position is precisely what the medical superintendent and the guardians choose to make it. The rules framed for the guidance of the superintendent of nurses in the Poor-law training schools of to-day are the same as those laid down for workhouse matrons by the Local Government Board in the Consolidated Orders of 1847 and are practically those of a working housekeeper. It is true that during the last decade through force of circumstances the supervision of the house staff has been handed over to an assistant matron, the care of culinary utensils to the cook, and the laundry to a superintendent, but the matron is still held responsible for the satisfactory performance of these duties notwithstanding. She is in addition required to aid the medical superintendent, and in his absence the assistant medical officer, in enforcing the due observance of all regulations laid down for the government of the infirmary on the part of the female servants therein, but the word 'nurse' is never mentioned in connexion with her duties, all responsibility with regard to the care of the sick and the control of the nursing staff being vested in the medical superintendent. From this it follows that the matron of a Poor-law infirmary, as superintendent of nurses, has no legal status whatever; her position is in no sense assured, but dependent on her surroundings. Every atom of power, any semblance of

authority, the matron may possess has been accorded her by act of grace; she can claim nothing as her bounden right."

The latter portion of Miss Julian's remarks is worded too strongly. All positions in life are what we make them, but we think that in the small workhouse infirmary the care of the sick and the provision for nursing should be vested in the general practitioner who is medical officer to the workhouse, but in the large parish infirmary responsibility with regard to the nursing staff, except as regards purely medical duties, should be, as is the case in any general hospital, vested in the matron or superintendent nurse. In country workhouses the position of the superintendent nurses should be made more independent of the master and matron and more dependent on the medical officer. Miss Julian thinks that the great parish hospitals should be taken over by the State and freed from the union brand and the workhouse taint. So long, she says, as workhouse nurses are regarded as being on a lower plane than those attached to voluntary hospitals so long will the sick poor in rate-supported institutions lack a full measure of skilled attention. There are no doubt difficulties in the way, but until some arrangement is made for separating the deserving poor from the class who never do any work and do not wish to work so long will the workhouse be looked upon as a disgrace instead of a refuge.

THE HOUSING OF THE WORKING CLASSES.

AN interesting conference was held in London on the last two days of July upon the problems arising out of the overcrowded condition of great cities and the various efforts which have been made to deal with them. Sir Sydney Waterlow and Mr. R. M. Beachcroft, L.C.C., were chairmen of the two meetings held and various other gentlemen whose knowledge and experience qualified them to do so read papers and expressed their views, the general tenor of which might be said to be that whereas the rehousing of the class earning regular and substantial wages presented comparatively little difficulty and gave satisfactory results the question of how to provide wholesome dwellings in which members of the strata below these could and would live had hardly yet been solved. In addition to this there seemed to be a considerable weight of opinion adverse to the provisions already made by Parliament to enable local authorities and individuals to deal with the evils of overcrowding and to replace it by a better state of things, the necessity for the coöperation of individual effort being fully recognised. A resolution was passed that "the conference is of opinion that the present method of dealing with insanitary areas is extravagant and unsatisfactory and urges Parliament to provide some less expensive and more expeditious mode of procedure." It is certainly beyond question that legal processes in the United Kingdom are, as a rule, both cumbrous and costly, but at the same time the powers given under the Housing of the Working-classes Act will strike many as considerable and of such a nature that it should be impossible for them to be hastily employed or for the liabilities which they imply to be undertaken without due consideration.

THE STUDY OF INEBRIETY.

THE Society for the Study of Inebriety has appointed a committee of medical men to inquire into the relation of heredity to the production of inebriety. The president is Dr. Wynn Westcott, coroner for North-East London, and the committee includes such well-known names as Mr. Victor Horsley, Dr. Sims Woodhead, Dr. Archdall Reid, Dr. Heywood Smith, Dr. Harry Campbell, with Dr. Thomas Morton as secretary. Much progress has been made with the investigation, and the medical profession is now asked to supply evidence on the following important subject: "The committee are fully satisfied that drunken parents tend to have children who become drunkards, but they earnestly desire to obtain evidence bearing upon the question whether a parent who himself inherits *no* special tendency to inebriety can, as the result of mere intemperate habits, entail upon his children a potential inebriety." Communications will be gratefully received by the president or secretary, and may be addressed to 396, Camden-road, London, N.

THE LAMBETH WATERWORKS COMPANY.

A CORRESPONDENT complains in the *Times* that the Lambeth Waterworks Company has again lately failed to give a constant water service. Each metropolitan vestry and each individual water-rent payer now has power to punish a defaulting water company. It appears that the public spirit and energy which animated Mr. Archibald Dobbs do not co-exist in the district of the Lambeth Waterworks Company. It may be safely predicted that the full statutory fine inflicted on a peccant water company would be more effective than any number of letters to the newspapers. And the Courts are open.

THE LATE DEBATE ON THE SOUTH AFRICAN COMMISSION.

IN the debate on the second reading of the Appropriation Bill a very lively encounter took place between Mr. Burdett-Coutts and Mr. Balfour. Mr. Burdett-Coutts attacked the South African Commission in strong terms. He contended that it was divested of all the power requisite to get at the truth, that witnesses would be afraid to give evidence before it lest they should injure their future prospects, and he appealed to Mr. Balfour to take a more serious and sympathetic view of the question than the Government had hitherto done. Mr. Balfour, who has throughout spoken with a certain degree of asperity, which is quite unusual with him, in connexion with this subject, replied to Mr. Burdett-Coutts and indignantly repudiated the correctness of such statements and the inferences which might naturally be drawn from them. For our part we can only regret the manifestation of any irritation or contentious spirit in the matter. We are quite content to leave the inquiry in the hands of the Commissioners in the full assurance that if Lord Justice Romer requires any further powers to strengthen his hands in the investigation over which he presides or considers that anything further is required to protect and safeguard the witnesses he will lose no time in representing what is either requisite or expedient. What everybody desires is that the inquiry should be thorough—that the whole truth should be elicited and boldly stated without favour or affection to anyone. The precautions which have been taken seem to us sufficient to impart assurance to the most timid and we cannot believe that under such circumstances any witness will shirk a duty which he owes alike to his conscience and his comrades, any more than we can believe that the members of the Commission will fail to conduct the investigation throughout with absolute impartiality. If Mr. Burdett-Coutts really desires that the whole truth should be elicited he cannot perform a greater service, we think, than by writing to his correspondents in the spirit we have indicated. Mr. Balfour towards the end of the debate made the important statement that the Government had decided on appointing the Commission before Mr. Burdett-Coutts had brought forward his charges. At the conclusion of the campaign—as everybody foresees and the Government is pledged to do—an exhaustive inquiry into the whole conduct of the war in South Africa must inevitably take

place. The Commission now sitting is only part, and a very limited part, of a big subject.

THE OPEN-AIR TREATMENT OF PHTHISIS FOR THE POOR.

A MOVEMENT is on foot for providing for the poor of the metropolis a hospital for the reception of phthisical patients in which to carry on the open-air treatment. The movement originated with the board of management of the Poplar and Stepney Sick Asylum District. The managers doubtless thought that what was so essential in the case of the rich was still more so in the case of the poor whose power of resistance and recuperation is apt to become fatally impaired at an early period of tuberculous disease. It was found on inquiry that in this particular district alone there had been 65 cases of phthisis which might have been saved by this treatment. Accordingly the managers called together the medical officers and clerks of the unions comprised in the district. After this they sent a deputation to the Local Government Board on the subject. The Board expressed full sympathy with the views of the managers. The Board at the same time have suggested that the guardians of districts should not act seperately, but that such a provision should be made for the metropolis as a whole and that the management of it should be under the control of a metropolitan authority. They further suggested that the managers should invite a conference of the representatives of each Poor-law authority in the metropolis on the subject and have further communication thereafter with the Local Government Board. We highly approve the object and learn with gratification that the board of management of the Poplar and Stepney District have sent to each board of guardians in the metropolitan district a circular inviting a conference. It is desirable that every board should send a representative in sympathy with the object and with power to support the furtherance of it. We are not quite so sure that one huge institution for the whole metropolis is desirable or that this should be labeled a hospital. The congregation of too many such cases is depressing, and the name of sanatorium or convalescent home is to be encouraged rather than that of hospital. These are details. But as to the main object there can be no difference of opinion, and without advocating extravagance the institute should be pleasantly situated and generously administered with a view to the comfort and cheer of the patients.

THE Colonial Office has received a telegram to the effect that during the month ended August 2nd there were 10 cases of plague in Mauritius all of which proved fatal.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Famine: latest Mortality Returns.—The Plague.—Breeding-grounds of Anopheles in Calcutta City.—Sickness and Mortality in India.

THERE are still about five millions of people under relief and the mortality in the famine districts is very high. Cholera is the chief cause of death. At Ajmere-Merwara during June the death-rate was 180 per 1000 and in Bewar 144 per 1000 per annum. The worst districts were those of the Panch Mahals and Khandesh, inhabited by the Bhils and other forest and low caste tribes, where a death-rate of 256 per 1000 per annum was recorded. In Dhandesh cholera alone accounted for 63 per 1000 out of a rate of 150. Other districts in the Bombay Presidency were also severely affected. No returns are available for the native States but the terrible mortality amongst those who are crowding over the border into British districts tells its own tale. With all this terrible distress the prospects of the monsoon are very disheartening. Almost the whole of the famine tracts and North-Western India are still rainless.

The plague continues everywhere to decrease. Last week the number of fatal cases in the whole of India was only 227, Calcutta returning 107, Bombay City 62, Bengal Presidency 23, and Bombay Presidency 11. Only one case was reported at Aden.

The report of the chairman of the Calcutta Corporation has just been published. In it he directs attention to the plague measures during the past year and states that entire reliance was placed upon disinfection. He says that the change of policy has been justified by the result. "Not only were the people generally more pacific but information was obtained much more freely of plague cases." The difference between the normal and actual mortality is accounted for by the number of plague and suspicious cases registered. In addition to disinfection of the room where the plague patient was found attempts have been made to disinfect adjoining rooms and with some success. As I have before reported the system adopted seems to obtain information of nearly all the cases of plague which have occurred, notwithstanding that considerably less than half of the cases are seen by responsible authorities during life. The number of deaths from small-pox and cholera were both less than the average.

Experiments have been made by the health officer and his assistants in Calcutta during the past four months on the breeding-grounds of anopheles. The larvæ have been found in a large number of places, especially in small tanks containing rather foul water and low forms of vegetation. They were not generally found in the filthiest tanks containing sewage or in drains. The most favourite breeding-ground seemed to be excavations in the ground containing water. The water on paddy fields did not contain them, nor were they found in wells. There was great difficulty in exterminating them from tanks containing much vegetation, but other pools were easily covered with kerosine.

The annual report of the Sanitary Commissioner with the Government of India has been recently issued and like the immediately preceding volumes is much more than a mere compilation of statistics and local reports. Many parts of it prove very interesting reading. It deals as usual with the health of the British and native armies, with the vital statistics of the general population, with vaccination, and with various sanitary works. The mortality in the British army in 1898 was 20·05 per 1000, as compared with 22·93 for the previous year and as compared with 13·33 for the native army. Of this amount no less than 10·17 was due to enteric fever, which thus constitutes 51 per cent. of the total deaths and is unfortunately still on the increase. Hepatic abscess caused 8 per cent., heat-stroke 6 per cent., and dysentery 4 per cent. Amongst many civilian officers there is a tendency to put down to heat-stroke cases which cannot be easily differentiated from the "anomalous" fevers and the same tendency seems to exist on the military side. The heading of "heat-stroke" doubtless includes many cases of fever which have little or nothing to do with the heat at all. The sickness in the British army is chiefly caused by ague and venereal diseases, the former causing 27 per cent. of the total sickness, the latter 25 per cent. It is interesting to note that in the native army ague caused no less than 41 per cent. of the admissions. Compared with former years cholera has markedly declined. There were no less than 689 deaths from enteric fever, and the average number of men constantly sick from this one disease was 321, while other fevers were very small in amount. It is said that the British army is at present a youthful army, with 90 per cent. of the men under 30 years of age, whereas the corresponding percentage in 1871–79 was only 67. The figures for age and length of residence repeat former reports in the dangers to young soldiers and new-comers. It is satisfactory to find that the admission rate for venereal diseases has much improved, but this is explained partly by the widespread adoption of treating the affected men as out-patients. The death-rate among officers in the British army was 16·26 per 1000 and among those in the Indian army it was 10·18, both rates being much lower than in the preceding year. In the native army the chief causes of death were pneumonia and remittent fever, while the chief cause of admissions to hospital was ague. What "remittent fever" means is not very

clear; the title seems to cover a multitude of difficult diagnoses. Native troops suffer but slightly from enteric fever, and the death-rate from this cause is put down at only 0·13 per 1000, and forms only 1·2 per cent. of deaths, as compared with 50·7 per cent. amongst British troops. Natives are more liable to ague and so-called remittent fever, and apparently much less often attacked with "simple continued fever." Taking these statistics as a whole, it may be concluded that were it not for the prevalence of enteric fever among the British the actual liability to "fevers" would be greater amongst the native troops. With regard to venereal disease, there were only 40 admissions per 1000 men among native troops, against 363 for every 1000 among British troops. The Gurkhas, as usual, suffered proportionally more than other native troops.

July 5th.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague in Sydney for the week ending June 23rd are as follows: Remaining at the beginning of the week, 76; admitted, six; discharged 14; died, none; remaining at the end of the week, 68. The totals up to the end of the week are as follows: Cases, 284; deaths, 98; discharges, 118; "contacts" isolated, 1588; "contacts" remaining, 91; cases among "contacts," seven. The above figures include Chinese, of whom 10 were admitted, with eight deaths, all the other patients being whites.

June 26th.

The returns of plague in Sydney for the week ending June 30th are as follows: Remaining at the beginning of the week, 68; admitted, 12; discharged, 14; died, three; remaining at the end of the week, 63. The totals up to the end of the week are as follows: Cases, 296; discharged, 132; died, 101; "contacts" isolated, 1686; "contacts" remaining, 111; cases among "contacts," seven. The above figures include Chinese, of whom 10 were admitted, with eight deaths, all the other patients being whites.

The larger number of cases admitted during the week came from localities still more widely scattered than during recent previous weeks; and, as time goes on, it becomes more and more difficult to trace them to dwellings within areas known, or on good grounds presumed, to be infected—that is, by harbour-infected rats. On the other hand, no probable source of infection for them can be fixed upon; these cases are as little connected with each other as (with few exceptions) have been all those which preceded them. Personal communication between infected and clean families clearly has been no factor in the rise and maintenance of this epidemic at Sydney.

Nevertheless, rats are not the sole possible source of the disease; here as elsewhere plague appears to have been contracted under circumstances which excluded diseased rats, though only in a single instance. The quarantine ground may be described as having been divided into three parts: one contains the hospital, one the convalescent quarters, and the third the "contacts" camp. The two former are fenced and "contacts" and staff are alike prevented from entering; however, while the hospital fence secures a true isolation, the convalescent fence is only designed to prevent mingling of "contacts" and convalescents. But there is an exception: a scavenger enters the convalescent enclosure during the night only—at times, that is to say, when the convalescents are in their beds. It should be further noted that convalescents are treated as such only when they would be fit for release but that their buboes continue to discharge. This scavenger fell ill of plague after having performed similar duties for about six months. He was a young man in perfectly good health and was the only member of either staff, permanent or temporary, who had escaped inoculation—probably because he was already at work when the plague began, having been originally engaged in connexion with small-pox. On his right hand he had six unhealed, but not quite recent, grazes, of which one was slightly inflamed, and on the fore finger of the same hand he had several cracks or chaps on its external surface which ran horizontally to its anterior surface. His buboes were axillary and cervical on the right side. Bacteriological examination of liquid got from some of the scabs revealed no bacilli, nor were any present in serum drawn from a bubo; but this was taken two days after Yersin serum had been administered and after his temperature had fallen. His attack was slight. Notwithstanding the negative result of the bacteriological examination there was no room for doubt that his disease was plague in the opinion of those best able to judge. After a quite exhaustive inquiry into the conditions under which this man lived and worked at the quarantine ground (which he had not left during the long term mentioned) it seemed most likely that he had become inoculated in the right hand from dressings discarded by the convalescents; yet none of them reached the convalescent wards until long after the time when, according to the best information, bacilli have disappeared from the pus discharged from open buboes.

One other observation noted during the past four weeks is interesting. It has already been remarked that neither minor nor ambulant cases accompanied the beginning of this epidemic nor occurred during the greater part of its course. The first case recorded was the first case which occurred, and it was mild. The next, which happened just a month later, was fatal and it was immediately followed by many others among which the death-rate was high. After that the epidemic continued for many weeks with a steady virulence or intensity which yielded on an average a fatality of about 33 per cent. among whites. Lastly, the term now set in commenced; two or three cases were discovered almost by accident and were of the class known as ambulant. But besides this the virulence of the infection manifestly declined so that nearly all the new cases were of little apparent gravity. Recalling for a moment the fact so often pointed out already—namely, that the epidemic has certainly not been maintained by communication of the disease from person to person (whatever the few exceptions may have been)—it appears that both the primary virulence of the poison and its subsequent enfeeblement must have been independent of the agency or intervention of the human body. That the first case of all was slight may be nothing to the purpose; yet there is no evident reason why it should have been so were the virus derived from the same source as that with which the second, quickly fatal, case was infected. However, it was an example of inoculation by the flea, and it had shown the bleb which is said to be wanting when the implanted virus is very active. But, as regards manifestation in man, it is quite plain that there was no gradual exaltation of virulence of the infection by repeated passages through the human body (the possibility of this being assumed), nor can it be argued plausibly from the facts that the decline of virulence, now become apparent, has been the consequence of similar passages. The fact begins to appear that the whole process went on quite independent of man, who merely suffered incidentally and who was not of importance to the maintenance and diffusion of the disease. This statement, in my opinion, might have been expressed in more general terms. At all events, for the future the possibility of infection by rats and the subordinate possibility of infection by fleas must be excluded before other modes of infection need be seriously discussed.

July 3rd.

TOTNES HOSPITAL.—The annual meeting of this institution was held on July 30th. The report showed that 45 in-patients had been admitted during the year and that there was a favourable balance of £56 remaining. The committee stated that satisfactory progress has been made with the building of the new hospital. The Duke of Somerset was elected patron and Mr. A. M. Singer was elected president.

VACCINATION FEES.—The Vaccination Committee of the Cardiff Board of Guardians at their meeting on August 3rd decided to recommend the guardians to approach the Local Government Board with a view to the reduction of the minimum fees of the public vaccinators. It was stated that during the first year which has elapsed since the passing of the new Act 3743 vaccinations had been performed, the fees of the public vaccinators amounting to £1209. The year previous to the passing of the Act 5770 vaccinations had been performed, for which the public vaccinators had received £392 in fees.—At the meeting of the St. Germans Board of Guardians, held on August 2nd, it was stated that the cost of vaccination for the years ended March, 1898, 1899, and 1900, amounted to £23, £30, and £133 respectively.

THE THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE,

HELD AT PARIS, AUGUST 2ND—9TH, 1900.

THE Thirteenth International Congress of Medicine was opened in Paris on Thursday, August 2nd, under the patronage of the French Republic. The arrangements of the Congress have been made by the Government Department of Congress and the President of the Congress is M. Lannelongue. M. Odilon Marc Lannelongue is Professor of Surgical Pathology in the Faculty of Medicine of Paris and Surgeon to the Hôpital des Enfants Malades. He was enrolled an Honorary Fellow of the Royal College of Surgeons of England at the recent centenary of the College.

The following are the Executive Committee:—President: M. Lannelongue. Secretary-General: M. Chauffard. Treasurer: M. Duflocq. Members: M. Bouchard, M. Bouilly, M. Brouardel, M. Dieu, M. Gariel, M. Le Dentu, M. Malassez, M. Nocard, M. Raymond, M. Rendu, and M. Roux. Secretaries: M. de Massary and M. Léon Weber.

The first outward and visible sign of the thousands of medical men attending the Thirteenth International Congress of Medicine was seen on the morning of the last day of July when the Rue de l'École de Médecine was blocked by cabs containing medical men from all parts of the world anxious to go through the formalities which were necessary for official acceptance as members. Though nothing authoritative was given out and the tickets for the different fêtes and entertainments were duly distributed there was a very general opinion quite early that the sad end of King Humbert of Italy would mean the abandonment of the official receptions. This sombre beginning of the Congress was not relieved by the monotonous proceedings at the first general meeting held in the Salle des Fêtes. Most of those who attended this dreary function found their way into the grounds of the Exhibition and in the brilliant sunshine of that Thursday afternoon the Exhibition certainly was a revelation of what can be done by the French in building substantial stone edifices which at once attract attention and demand admiration by reason of their exceeding elegance and beauty. Properly to appreciate the brilliant architectural *tour de force* achieved the spectator should proceed in one of the swift passenger steamers plying on the Seine from the Pont d'Iéna to the Pont Alexandre III. Both banks of the river between these points are lined by veritable palaces of glistening white stone, affording a spectacle well exemplifying the French capacity to rise above criticism in matters of taste. But this is not the place to attempt a description of the Exhibition.

Some little disappointment has been expressed at the small attendance from Great Britain. This is attributable to many causes, but most certainly the general idea that there would not be sufficient hotel accommodation was fallacious, for suitable lodging and good food at reasonable prices, considering the circumstances, are to be had without undue difficulty. The suspicion that the reception of the English would not be of the warmest has been signally disproved by the hearty welcome accorded to them. Certainly the impression prevailing at the Hôtel Trocadéro, where many of the British section, including Sir William Mac Cormac, Sir T. Lauder Brunton, Sir J. Burdon Sanderson, Sir Felix Semon, and Sir Dyce Duckworth, are staying, is that their reception has been most cordial and sincere. On arriving in Paris the first place to go to was the École de Médecine where, in the roomy corridors round a refreshingly cool-looking fountain set in a shrubbery under shady trees, the members of the Congress found officials for the different nationalities waiting to distribute the insignia denoting membership and to impart information to strangers from every country. It was here that the paucity in numbers of the British section was most forcibly demonstrated, for the two or three individuals gathered at the part devoted to Great Britain contrasted strongly with the crowds surging round the Russian and German sections. After receiving the official card of entry to the Exhibition most members repaired across the road to the Faculté de Médecine, where the ladies' committee inscribed the names and addresses of members' wives and daughters and entertained the lady visitors in a sumptuously furnished room forming a pleasant haven of rest.

THE POSTPONEMENT OF FESTIVITIES.

A little while ago fears were entertained that one or more of the four medical congresses would suffer in consequence of international mourning. It was then thought that in the event of official confirmation being received of the massacre of the ambassadors and other Europeans at Peking many of the official entertainments would be postponed. There was no established etiquette compelling such a course because, fortunately, the wholesale massacre of ambassadors was a disaster so unprecedented that the framers of even the most elaborate protocols had never foreseen such an occurrence; still, it was hardly likely that illuminations, music, and dancing would be organised by a Government on the morrow of such a disaster, and therefore it was widely rumoured and believed that many of the proposed festivities would not take place. This anticipation has been realised, and this at the very time when it was thought most likely to occur, but its cause was totally unexpected. It is not for the ambassadors and Europeans at Peking that all the Courts are in mourning—for however precarious their situation it would seem that for them there is still hope—but for the King of Italy. A fortnight ago the general secretary of the International Congress of Hygiene, Dr. A. J. Martin, was discussing this matter and he remarked that he hoped that the mourning for the victims of the Boxers would be over by August 10th when that Congress begins. This hope will presumedly be realised. What was expected has happened and yet the cause is utterly different and altogether unexpected. So many of the projected entertainments have been postponed which, at least for those who are remaining for but a short time in Paris, is equivalent to being totally abandoned. On Tuesday, July 31st, the members of the International Congress of Deontology and of the Medical Press Congress were to have been entertained at a grand fête at the Hôtel de Ville. This was postponed at the last hour. On August 5th the members of these Congresses, together with those of the Thirteenth Medical Congress, were to have been received by the President of the Republic, M. Loubet, at a garden party at the Elysée. This has likewise been abandoned, and other official receptions will probably share the same fate. No doubt the congresses will achieve their respective missions, but the more cheerful side of these gatherings has been sadly clouded over.

THE BANQUET TO LORD LISTER.

It is generally agreed, however, that public sorrow and mourning must not interfere with the private hospitality shown to the foreign visitors and guests. Therefore the private banquet organised in honour of Lord Lister by Professor Charles Richet and the Scientia society was not put off. At the Restaurant of the Congresses, opposite the Congress Hall in the Exhibition grounds, the leading professors of the Faculty of Medicine and some foreign members of the Congress of the Medical Press and the Deontological Congress met on Wednesday, August 1st, to welcome Lord Lister. It was a very quiet gathering of thoughtful earnest, and learned men who had all made their mark in the world of science and who all profoundly admired Lord Lister's career and work. At dessert Professor CHARLES RICHET was the first to rise and tender his thanks to Lord Lister for having come "to receive the homage of our

admiration." Throughout the world there was no surgeon who was not deeply indebted to Lord Lister and there was no physician who did not feel equally indebted to Pasteur. These two names would illuminate their century; their names would live throughout posterity. When a man by his genius had saved thousands and thousands from untold suffering he deserved more than their admiration—he was entitled to their love and gratitude. If all who had benefited from Lister's work were there, even the great Exhibition itself would not be large enough to hold the assembly.

Dr. BOUCHARD spoke next and recalled how some 17 years ago, when Lord Lister appeared before the Congress then meeting at Amsterdam, an immense acclamation arose, especially from the Dutch. After Lord Lister himself those who were most astonished by this ovation were the English and the French members present. Lord Lister was not then a prophet in his own country, and yet had ever a discovery been so quickly acknowledged? A hundred years after Harvey scientists were still discussing whether the theory of the circulation of the blood was true. This century commenced in the noise of battle and civil discord and yet in the midst of this trouble a man came and endowed the world with the benefits of vaccination. The century ended with the curse of war and the shame of abominable assassinations and then, said Dr. Bouchard, "you come and show us how to heal wounds. We wish in the name of the suffering peoples of the whole world to honour you as our great benefactor."—Professor GUYON spoke in the name of the Faculty of Medicine and Dr. LUCAS CHAMPIONNIÈRE related how 32 years ago he had heard Lord Lister explain his theories. He was then the object of hostile criticism and yet how rich with new developments and possibilities had he rendered the intervening time. "You acquired the conviction that there was no spontaneous generation; why, then, should it exist in surgery? That was your new faith, and when I repeated this in France I was called the apostle of a new religion; and I have merited this title by reason of my faithfulness to your teaching. ..... All new discoveries of the 30 years are your tributaries; none of them would have been possible but for you. We can remember the miserable condition of surgery and how great was the mortality. Nélaton said that a statue in gold should be raised to the person who was able to prevent what we now know as 'sepsis.' You have deserved that statue and our only regret is that at present we cannot offer it to you."—Dr. PINARD spoke for obstetric surgery, which he thought was more particularly indebted to the Listerian methods. The terrible mortality at the maternity hospitals was now a thing of the past. He concluded by exclaiming: "Lord Lister, when we are asked why you are illustrious we reply because you have driven back Death itself; because in all you have done you have only caused tears of joy and gratitude."

After a few words of admiration on behalf of the Paris medical students by the President of the Students' Club Lord LISTER rose to reply. He spoke slowly, gently, and in French. When he received the invitation to that banquet, he said, he was overwhelmed by the honour; but he accepted it because he interpreted the invitation as an expression of the respect of French scientists for the noble science of surgery and for the Royal Society of which he was President. He also thought that such a fête given by such eminent Frenchmen to an English scientist was a striking illustration of the happy fact that though there were animosities—or, rather, he would prefer to say misunderstandings—science knew nothing of them. Scientists had learned to respect each other—better still, to love each other—whatever might be their nationality. He had often stated, and he was pleased to repeat it, how much he was indebted to Pasteur. He had ever loved physiology and surgery, but he had lamented the disastrous results that followed even the best and most skilful operations. He saw that the chief evil was due to changes that occurred after the operation and to a cause arising not from within but from without the patient's body. He did what he could to guard against this, but all efforts were useless till Pasteur threw a powerful light on the subject. Pasteur had suggested a possible course which he, the speaker, had done his best to follow. That was all. If the results had been so beneficent as generously described by the various speakers that night it had been in a great measure due to accident. Lord Lister then renewed his expression of gratitude for the reception he had enjoyed and said that the memory of such a demonstration would never be effaced from his mind.

It would be difficult, nay, impossible, to fully describe the effect produced by Lord Lister's speech. The simple, brief sentence, "That was all," was more particularly commented upon. The extraordinary modesty and simplicity of bearing of the great British man of science evoked endless expressions of surprise. How was it possible to receive so many honours and yet not to be in the least degree spoilt by them? That seemed to be considered as wonderful and as exceptional as the services and the discoveries which all present sought to honour in the person of Lord Lister.

Lord Lister was then conducted to the Medical Club in the Avenue de l'Opéra, where he received a great ovation. The president of the club, Dr. Pozzi, wished Lord Lister in eloquent terms the heartiest welcome and suggested that a marble tablet should be put up in the club in commemoration of Lord Lister's visit. The greatest enthusiasm prevailed throughout.

THE OPENING CEREMONY.

(FROM OUR SPECIAL COMMISSIONER.)

By half-past one in the afternoon of Thursday, August 2nd, a long line of cabs was hurrying over the Pont de la Concorde, manœuvring round the Place des Invalides and seeking short cuts to the rear of the Gallery of Machines where is situated the nearest entrance to the Hall of Festivals. The man in the street was somewhat amazed by the presence of so many persons in full dress at this early hour, together with the display of many orders and decorations and brilliant uniforms, and all apparently going in the same direction. The weather, rendered cool by recent rains, was delightful and the members of the Congress for the most part rode in open carriages, to the great satisfaction of the Parisian crowds who were thus better able to contemplate the distinguished visitors and guests of their great town. The garde municipal à cheval guarded the approaches of the great hall, and, within, the republican guards, with their best plumes and newest uniforms, kept the passage clear for the members of the Congress. Though on that very day the computation had been made that the Congress numbered 5739 members—and there were wives, relations, friends, and journalists present not included in this number—still the great Hall of Festivals was not half full. It may be remembered that last year I described a conversation I had with Dr. Chauffard. The secretary-general of the Congress then lamented that there was no suitable hall in Paris for the opening ceremony. There had been some 5000 members when the Congress met at Moscow and there might be twice as many when it met in Paris. We did not then anticipate that a war would considerably reduce the British contingent or make sufficient allowance for the competition of other congresses and the fear of the cost of living in Paris during the Congress—a fear, by the way, which events have not justified, at least for those who knew their way about. Dr. Chauffard and myself did not then realise that a great Hall of Festivals would be built. I suggested the Trocadéro, but Dr. Chauffard is an artist and he could not bear the idea of bringing together delegates from all the world in a hall which could only boast of its size and which altogether failed to illustrate the artistic taste and capacities of the French people. Dr. Chauffard must now be well satisfied. No one can fail to have been impressed by the artistic beauty and grandeur of the Hall of Festivals. The domed stained-glass roof shed a rich yellow light on the great circle below which was about half covered with velvet benches. Between the four entrances on the four sides of the circle were vast tribunes or rising galleries where some hundreds of people could be seated. One of these served as the platform and was luxuriously furnished with gilt and red silk chairs, on another of these tribunes there was a military band, and the remaining two were occupied mainly by ladies. The benches in the body of the hall were divided by broad avenues, and each division was allotted to members under various classifications. On the platform academic and military uniforms helped to enliven the scene. The President of the Congress, Dr. Lannelongue, was resplendent in the bright green embroidery of the uniform of the members of the Institute, and Professor Marey was also in the same cheerful dress. Those who belonged to the Academy of Medicine but not to the Institute had their coats embroidered with more sober colours, violet and gold. Among the distinguished crowd occupying the platform I noticed M. Faillières, President of the Senate,

talking to his fellow Senator, the celebrated surgeon Dr. Labbé. Professor Bouchard, who presided over the French Section at the Berlin Medical Congress, was not far from Dr. Dujardin-Beaumetz, the chief of the sanitary services of the army, who ranks as a general of division, and Dr. Cuneo, chief of the sanitary services of the navy. At one time there must have been not far from 150 persons on this vast tribune.

At a quarter past two the republican guards advanced into the body of the hall and cleared the central passage and made an open space at the foot of the tribune. Five minutes later the band played the "Marseillaise." Everyone rose and strained to get a glimpse of the President of the Republic; but in spite of the national hymn which generally heralds his presence the President was not there. While the audience were still looking and wondering Dr. Lannelongue had taken the chair and half sentences or stray words were heard—"an appalling crime"—"sympathy"—"prevents the President of the Republic attending any public"—"sympathy of the whole assembly"—"horror at such an attempt"; and though but few heard a complete sentence everyone understood perfectly what was meant. Then the assembly sat down; and, after having explained why M. Loubet was absent, Professor LANNELONGUE proceeded to read the opening discourse; but soon there arose a strange sort of sound, like the beating of pebbles by the waves on the seashore. It was the effect of whispered conversation complicated by the incalculable echoes of the great hall. Professor Lannelongue read in a loud and distinct voice and slowly, but it was like speaking to the ocean. He said that the object unceasingly pursued was the improvement of mankind, and for this absolute freedom of research was necessary. Such researches would be materially facilitated if a nomenclature more in harmony with present knowledge could be universally accepted. After pointing out that the idea of an International Medical Congress was first brought forward at Bordeaux in 1855 Professor Lannelongue paid a handsome tribute to the help and support given by medical men of all nations and cordially welcomed all the members of the Congress.

M. MONIS, the Minister of Justice, followed and in the name of the French Republic greeted the leaders of civilisation. The French Government was anxious to show its respect for a profession representing devotion to humanity and for men who had come from all parts of the world to promote the cause of science based on truth.

The General Secretary, Dr. CHAUFFARD, followed, and then came the long procession of foreign representatives, headed by Dr. VON BERGMANN of Berlin, who spoke in a loud voice and was greeted with great applause. Though portly in figure his coat was almost entirely concealed by the numerous orders, stars, and decorations that have been conferred on the renowned German surgeon. Then appeared four other members; their names were not announced, though one of them was stated to be Dr. CASTILLANI of the Argentine Republic. They spoke in dumb show and fortunately very briefly. Dr. HINGSTON of Canada, who came next, was heard a little better and met with a hearty ovation. I caught some words about science that recognised no frontiers, and about duty. When he sat down, after uttering but a few words, a delegate from Chili spoke, and then Dr. CARTEJARENA on behalf of Spain. America, Greece, Japan, and other nations had their speakers, but the only real orator was the representative of Mexico. He knew how to step forward across the broad platform and was the only speaker who had the courage to go right forward to the place specially devised for the speakers to stand. He knew also how to manage his voice, and though at that moment no special interest was felt with regard to Mexico everyone was delighted to see a speaker whom they could hear. It is true that he indulged freely in platitudes, but then they were so well delivered that it was a great relief after the weariness of the previous inaudible speakers. He extolled Pasteur and the happy country that had given birth to a man who had won the title of a citizen of the world. When a brave man died all died with him; but when a man of genius died he did not disappear. Such men only died like the sun to reappear very soon, for their works continued to illumine the world. After more speeches suddenly the band began to play a lively tune, and it was inferred that by this time every nation had had its say.

But the ceremony was not over. The best was to come. Professor VIRCHOW of Berlin had to deliver an address on Traumatism and Infection, alluding to the influence of the French schools on science. He set to work in true German style thoroughly and completely to develop his thesis. He spoke in German, and very few persons present could have understood him even if they had been able to hear him. This finally broke the patience of the audience, which soon melted away, and three parts of the persons present had disappeared by the time the learned professor had finished. The gist of his remarks was as follows. Traumatisms might be defined as an alteration of any portion of the *living* body brought about by external violence. Traumatisms might be divided into visible, such as wounds, and hidden, such as contusions. A wound being necessarily accompanied by a solution of continuity it was very prone to collect foreign matter, either in bulk or finely divided, as in the case of dust. This was the way in which harmful matters brought about infection. Contusions, on the other hand, were capable of infection only by internal substances. There were cases, however, where a contusion without any superficial lesion was produced by external violence and in which, despite the integrity of the surface, infection supervened. Such, for instance, were the dangerous inflammations of the marrow of the long bones, although in such cases the skin, the subcutaneous tissue, the muscles, and the periosteum showed no alteration. Innumerable microbes were found in the affected parts of the marrow. Whence did they come? That was a question which could very rarely be settled by observation but which opened the door to hypothesis. General opinion at the present day favoured the theory of bacterial origin, according to which an infection already existing in the blood must be presupposed, produced at the seat of another wound, and carried to the focus of the secondary manifestation. Some surgeons considered that there must be some very minute erosion of the surface at the seat of contusion. Both these explanations were theoretical and had no definite proof. It was extremely difficult to prove that the traumatism and the infection were synchronous. Observations were on record where the infection preceded the traumatism and others in which it developed in a part wounded a long time previously. In cases of this kind a decision could only be arrived at by a careful consideration of the history of the case. If this was not to be obtained the anatomical points of the affection must be looked into. The great *savant* was proceeding to illustrate this point by special examples when a large part of the audience dispersed. There is not a centre of scientific thought in the world where Professor Virchow's inimitable achievements are in higher repute than in Paris. The apparent discourtesy was due to the fact that he was almost inaudible and speaking in a language with which many were not familiar.

It was then announced that Professor PAVLOV from Russia, who was to have delivered a discourse, had been detained through illness. The faithful few who had remained in the great hall then quickly dispersed. It must be confessed that this opening ceremony was dull.

In the evening Dr. Lannelongue received more than a thousand members of the Congress. It was a brilliant entertainment. There was some good music and then the children's ballet corps of the Grand Opéra danced and appeared bearing flags of the different nationalities. The band accompanied this display with the national hymns of Russia, England, Germany, Austria, and France.

THE GENERAL ASSEMBLY AT THE SORBONNE.

On Monday afternoon a general assembly of the whole Congress was held in the new hall of the Sorbonne. This magnificent building can seat 3000 persons and there were probably close upon 2000 present. The President of the Congress, Dr. LANNELONGUE, opened the proceedings at 12.15 P.M., and the General Secretary, Dr. CHAUFFARD, read out a long list of honorary presidents of sections whose nominations the assembly at once and readily notified. Professor LIKHATCHEFF then read on behalf of Professor Pavlov, who was absent through illness, the paper which he should have communicated at the opening ceremony. It dealt with Experimental Therapy as a new and fruitful method of physiological research. This lengthy and technical paper described many experiments made with dogs and concluded by a special homage to Claude Bernard.

Dr. LANNELONGUE then explained that Professor Baccelli was to have read the next paper, but in consequence of the national mourning refrained from doing so. He expressed,

on behalf of the Congress, sympathy for their Italian colleagues and called on Professor Burdon Sanderson. Speaking in French Sir J. BURDON SANDERSON explained that 47 years ago he had come to Paris to terminate his medical education and felt especially honoured, at the close of his career, at being thus able to speak in France to such a distinguished audience. These introductory remarks were delivered with some timidity and hesitation and only a few persons seized their meaning and faintly applauded; but when he entered into the subject matter of his paper—Some Modern Pathological Problems—his voice rose, his pronunciation improved, and the force of his diction as well as the subject matter of his remarks elicited several outbursts of applause. Professor JACOBI from the United States followed and gave a very interesting account of the growth of the medical profession in America, of its medical education from its crudest beginning to the present day, and of the American medical press. This was all quite new to the greater part of the audience and was consequently welcome and entertaining. These three papers were lengthy and sufficed to fill up the afternoon. Indeed, a good many persons left before it was over, though others came in to take their place. I do not know whether many persons noticed the admirable ventilation of the hall which in this respect is one of the model halls in Europe. The fresh pure air was filtering in all the time from every seat and was so carefully propelled forward that its passage could only be just faintly perceived by those who specially sought to note its passing. The readers of THE LANCET may remember the full description and illustrations of the system employed which were published in your columns some 10 years ago when the new hall had only been in existence a few months.

THE FÊTE AT THE LUXEMBOURG PALACE

As already announced all the official entertainments have been postponed, and it was at first generally supposed that the fête to be given at the Palace of the Luxembourg announced for August 6th would likewise be abandoned. This ancient palace being now the meeting-place of the Senate it was naturally supposed that the Upper House was desirous of receiving the members of the Congress, and this could not have been otherwise than an official reception. It appears, however, that these conjectures were mistaken. It was the members of the Bureau, or managing committee, and the committees of the sections who had organised the fête, and they had simply borrowed the *locale* of the Senate for that purpose. Therefore, though the Congress is indebted to the Senate for a certain measure of hospitality—namely, the use of the Senate House—nevertheless it was not the Senate that was giving the *fête*, and therefore it fell under the denomination of a private and not an official entertainment. Consequently it was not postponed, and as it was the only large festivity occurring during the week everyone made a point of going there, and the number of members has considerably increased since the opening day. On August 5th it amounted to 6170, and including the wives and families of the members, together with various officials and notable personages who are not members of the Congress, the number of those who were invited must have amounted to some 10,000. The programme was most attractive. In the gardens there was to be a military band, in the ballroom there was to be dancing to an orchestra of 45 musicians, and in the Salle des Fêtes another orchestra of 45 musicians were to accompany Madame Litvinne and M. Renaud from the Grand Opéra who, with others, sang selections. This was to be followed by an operetta, some dancing, and recitations by M. Mounet-Sully, of the Comédie Française, and Madame Sarah Bernhardt. Obviously there were here all the elements necessary for a most refined and enjoyable *soirée*. Unfortunately the results were entirely marred, firstly, because by far too many invitations were issued; and secondly, because there were no stewards within the building to guide the guests and to prevent crushing.

In the streets, round the Palace, there were a great number of police who with their white staffs regulated the traffic and got the carriages in and out of the great yard with perfect order and promptitude. But after this all semblance of organisation ceased. The cloak-rooms provided were altogether too small and the attendants were overwhelmed. Many guests had to wait half an hour, some a longer time, before they could get numbers for their cloaks, and this in a terrible crush of people. Then when they attempted to enter the Palace they found that there was only one door and that it was only four feet wide. At first, however, this only meant some delay and some squeezing. But the early arrivals soon found that the building was getting intolerably hot and overcrowded. The seats to hear the music were all filled at a very early hour. To stand closely packed in the aisles between the seats or in the passages outside where nothing could be seen or heard became both dull and wearisome, and before 11 in the evening a strong outward current set in. But by that time the banquet given by the surgical section at the Hôtel of the Palais d'Orsay, which is not far off, had terminated, as also a number of private dinners, and a large crowd of late arrivals coming from these minor entertainments now flocked to the Palais du Luxembourg. It was at this point that the want of stewards became manifest. Those who were already tired and wanted to go home knew of no exit save the door by which they had entered; and here and in the approaching passages they met the incoming crowd. Soon a terrific contest occurred between the out-goers and the in-comers which often resulted in a deadlock. Sometimes one side had the advantage, sometimes the other. For my part I was for a good quarter of an hour unable to move either backwards or forwards and had some difficulty in keeping my coat on my back. Several gentlemen had their collars torn off, their neckties disappeared, and fearful havoc was made of the ladies' dresses. I do not, however, believe that anything serious occurred, though some ladies must have suffered from the alarm which they very naturally experienced. There were, it appears, other doors intended to be used solely as exits, but not one person in 20, perhaps not one in 100, knew of their existence. The struggle at this one door probably lasted for a couple of hours; in any case, I was present for more than an hour while it continued. Reaching finally the open I witnessed a most remarkable sight. Here in the great yard, with its old-fashioned huge square paving-stones that in the olden days supplied the principal material for throwing up barricades, were gathered in clusters from 200 to 300 ladies and gentlemen. A few chairs had been discovered and some were quietly sitting down enjoying the cool of the evening. Ladies in low-neck dresses, officers in embroidered uniforms, and all the gentlemen in evening dress, contented themselves with loitering in the yard intended exclusively for carriages, and watching the struggle at the one door and hearing the stories of those who come out of the broiling crush from within. A great many guests, after waiting a considerable time, went home and never succeeded in entering the Palace at all. Among those who were thus patiently and modestly waiting outside in the yard I noticed the Dean of the Faculty and Madame Brouardel. This morning Professor Brouardel told me that he finally discovered a small back entrance by which he managed to gain admittance. In his opinion also the chief blunder was the want of stewards to show people where to go and what to do. In the dancing saloon though the band piped there was no dancing worth mentioning in consequence of the crush. On the other hand, some German members specially distinguished themselves by conducting the most effective raids upon the buffets, carrying away the provisions, which they put upon chairs, and, grouping round these extemporised tables, managed to make hearty meals on sweets and sandwiches. As it is the custom in France to dine at seven or eight o'clock it is not generally thought necessary to provide substantial fare so soon after dinner. Commenting on the evening and its mishaps the *Fronde* of this morning says: "Our regret for the manner in which our guests were treated is somewhat lessened by the utter want of consideration some of them displayed towards us. Some foreigners thought fit to come to this entertainment in travelling jackets and we perceived some women wearing boating caps."

THE SECTIONS.

Early on Friday, August 3rd, the different sections opened their sessions, and although under paragraph marked B of what is termed "Analytical Programme of Business" it was specially pointed out that members had a right to take part in all the sections it is unlikely that many medical men did much more than attend one or two, perhaps only visiting some of the others. The sections, numbering 26, were scattered over a wide area and some trouble was experienced in finding the different buildings where the meetings took place. The École Pratique accommodated three sections in a large amphitheatre. Under the presidency of Professor

Tillaux Dr. Ceccherelli of Parma was addressing a crowded audience. The next section visited was that of Pathological Anatomy, which was reached by climbing several untidy staircases, past rooms apparently containing many dogs to judge from the great noise of barking. Pathological anatomy on the opening morning had not attracted a great number of members, and the section for Histology, which was situated across a court and down a passage, had still fewer votaries, perhaps caused by the heavy rain which was falling, deterring members from going across the open yard. In the Faculté de Médecine were three sections—Legal Medicine, Internal Pathology, and General Pathology—and these were soon reached by crossing the Rue de l'École de Médecine. Legal medicine was drawing a small audience, but internal pathology was very popular and the air of the theatre was correspondingly noticeable. General pathology had a fair number. The next place visited was the Sorbonne, which held six sections. The sections on Obstetrics and Gynæcology were at the end of long passages and were crowded, and after having lost the way several times in more long passages the section for Surgery in Children was chanced upon; this was attended by many, and after another tramp along more corridors the crowded amphitheatre for Neurology was visited. The sections for Pediatrics and Physiology were full, and then after a little difficulty in finding the way out of the enormous building of the Sorbonne the Faculté de Droit was entered after a short walk. Here the laryngologists and otologists had two spacious rooms, and everything seemed to be well arranged and properly organised. Descriptive Anatomy and Comparative Anatomy were installed at the Collège de France. A sharp walk along the narrow Rue St. Jacques brought me near the École de Pharmacie, where I found the International Congress of Chemists holding council together. This building contained the sections for Therapeutics and Psychiatry, which were only fairly full. The Val-de-Grâce Military Hospital was the next place to visit, and there the Military, Naval, and Colonial sections were located. This was evidently an old building, but the organisation for the Congress was perfect. It was possible to walk in and by simply following the clearly printed instructions to arrive at the places of meeting without any loss of time. The bright uniforms of the officers and the pleasant politeness of everyone connected with this hospital rendered the way of the stranger easy and a visit to the wards and laboratories most interesting and agreeable. Few members, however, seemed to be aware of this section and fewer still seemed to find the way there. Bacteriology was located at the Pasteur Institute, but it was only after a long and jolting drive that it was reached. Here the members were inspecting the buildings and again it was remarked that the distance probably deterred visitors from attending. Another long jolt in a Paris cab and the Necker Hospital was reached, where, after passing a few instruments displayed by enterprising firms along a passage, the section for Urinary Surgery was found holding its second session with a full number of members. The section for Dermatology was the scene of an animated discussion, carried on in German and French, but the care that had been taken suitably to organise this section repaid the labour expended in reaching it, though it seemed a very long way out, being situated at the St. Louis Hospital. The photographs and drawings displayed in a large adjoining room well deserved the attention which they attracted. Leaving the somewhat argumentative dermatologists, the next visit was to the Hôtel Dieu, where the ophthalmologists had their section, and its central position and comfortable arrangements no doubt helped to swell the numbers present. In the Assistance Publique, quite close by, the section for Diseases of the Mouth held their discussions. The distances between the sections were found to be a great disadvantage during the Congress, it being in consequence difficult to secure large meetings for certain subjects.

I.—BIOLOGICAL SCIENCES.

Work under this heading was divided into three sections—viz.:—

A, Descriptive and Comparative Anatomy; B, Embryology and Teratology; and C, Physiology and Physiological Chemistry.

Several important contributions were made, among which may be mentioned a paper by M. Armand Viré on the Influence of Environment upon the Sensory Organs of Subterranean Dwellers, and one by Professor F. le Double, Professor of Anatomy in the Medical School at Tours, on the Variations in the Muscular System of Man. He divided the variations generally noticed into three classes—retrogressive, progressive, and monstrous—and laid down some excellent practical rules for rendering the work of future observers in these fields more fruitful. For example, Professor le Double would like to have one or two recognised human malformations selected by all anatomical congresses or anatomy sections of international congresses as matters for particular attention, and in the interval between the meetings the anatomists of the world should make simultaneous investigations in various dissecting-rooms for information in the indicated direction. This suggestion shows that Professor le Double understands how a congress should be used, how it may be made a place for the interchange and general advancement of science. To the section of Histology Dr. Hénocque, of the Laboratory of Physics and Biology of the Collège de France, contributed an interesting paper in which he reviewed the assistance given by spectroscopy and microscopy to general anatomy.

II.—MEDICINE.

INTERNAL PATHOLOGY.

Pathogenesis of Gout.

Dr. P. LE GENDRE (of the Hôpital Tenon, Paris) read a paper on this subject. After enumerating several theories of gout he said that all of them were open to chemical, physiological, or pathological objections; the most plausible of them could only account for a fit of the gout and could not explain the permanent derangement of the cellular nutrition which was transmissible by heredity and formed the connecting link between successive gouty attacks in the individual and also between gouty manifestations in father and son. Clinical statistics had proved (1) that gout occurred with exceptional frequency in persons whose progenitors or descendants suffered from diseases of the class known as arthritic or from diabetes or obesity, and (2) that gout was often associated in the same individual with one or other of these maladies. The numerical relations established between the diseases of the arthritic group justified the attribution to each of them of the pathogenic course of events demonstrated to be true for one of them by Dr. Bouchard who had shown that diabetes consisted in a diminution of the power of the tissues to effect the combustion of sugar—i.e., to complete the transformations of carbohydrates. If gout was clinically of the same nature as diabetes it was very probable that in the gouty there was an impairment of metabolism as regards nitrogenous matter, an inability of the tissues to effect the complete destruction of albumin. Among the consequences of the incomplete destruction of waste products must be reckoned the loading of the organism (*a*) with certain acids (oxalic, acetic, lactic, &c.) which might diminish the solubility of uric acid, although it might not be necessarily in excess in the blood, and (*b*) with certain organic bodies the toxic action of which might contribute to produce the phenomena of gout. Clinical statistics showed that simple albuminuria and interstitial nephritis were frequent in gouty subjects. Acquired gout was brought on by excess in food which was either nitrogenous or rich in oxalic acid, or by over-free use of certain fermented beverages; it might also be due to want of bodily exercise, to over-fatigue of the nervous system, or to lead poisoning. Gout was hereditary because the defects of the cells of the progenitor were continued to those of the offspring through the ovule or the spermatozoa.

Dr. WILHELM EBSTEIN (Göttingen) read a paper on the same subject. He said that gout was a disease more or less chronic and depended on a hereditary diathesis which was almost always congenital and to which the name of uric acid diathesis had been given. With respect to the essential cause of the uric acid diathesis only hypotheses could be put forward. The close relations which existed between uric acid and the nucleins rendered it probable that in the uric acid diathesis there was an abnormal state of the cellular nuclei or of the protoplasm of the individual in question. The individual predisposition, which could be followed through whole families and successive generations, was a very important feature of the uric acid diathesis. A variety of conditions seemed to contribute to the development of the uric acid diathesis

and to its transformation into actual gout, some of them being as follows: (1) all the circumstances being equal gout manifested itself earlier and with more severity when the uric acid diathesis was well marked than when it was not; (2) personal habits, such as idleness and luxurious living, or the combination of these two in a high degree, or the abuse of alcohol, favoured the development of gout and temporary variations might very often be attributed to those conditions; (3) certain acute and chronic toxic influences in presence of the uric acid diathesis favoured the development of gout, among which some bacterial toxins were of great importance, and the relations of gout to rheumatism, syphilis, lead-poisoning, and influenza must be kept in mind; and (4) neither contagion nor climate had any influence as regards gout. Uric acid seemed to be the poison which produced gout. The question whether other products of the organism, such as the alloxur bases or nuclein bases, also played a part was not yet decided. It was probable that it was only the uric acid formed at the expense of the nuclein substances of the human body, and not that formed at the expense of the nucleins of the food, which had an influence on the pathogenesis of gout. It was not yet proved that in gout uric acid was formed in excess; Dr. Ebstein considered that an increased formation of it was not indispensable, but was nevertheless very probable. The history of leukæmia showed that gout was not the result of over-production of uric acid (estimated according to the quantity of uric acid excreted in the urine), for in some cases of leukæmia there was an excretion of uric acid greater than ever occurred in gout. Uric acid was a chemical poison but not a septic one. Its effect was not the same either on animals of different species or on animals of the same species but of different ages. Inflammatory and necrotic changes of the tissues in question were the necessary consequence of the presence of uric acid which ultimately caused total necrosis. When the tissues were quite dead, but not before, the acid deposited itself there under the form of crystalline acid urate of sodium, called mono-natrium urate by Tollens and sodium biurate by Roberts. Tollens thought that uric acid circulated in the blood and in the alkaline fluids of the human body in this same alkaline combination, and not, as Roberts supposed, in the form of sodium quadriurate, a salt which Tollens has more correctly called hemi-sodium-urate. It might be admitted without hesitation that the mono-natrium urate of Tollens (sodium biurate of Roberts) could deposit itself in the crystalline form in tissues the vitality of which had been destroyed either by uric acid or by some other poison. In order to understand the pathogenesis of the different symptoms of gout it was necessary to presume the existence of primary articular gout and primary renal gout. The former was the commonest variety of gout and did not prevent the patients from attaining an advanced age. Primary articular gout developed itself at first under the influence of retained uric acid, this retention being localised because it affected only a single part or some parts of the human body. In primary renal gout there was from the outset a generalised retention of uric acid which affected all parts of the body and was always caused by primary structural disease of the kidneys.

Sir DYCE DUCKWORTH (London) followed with a paper on the same subject. Sir Dyce Duckworth's conclusions were as follows. 1. Gout as a morbid condition depended on an inherent vice of nutrition which was manifested by an imperfect metabolism in various organs or parts of the body, presumably in the kidneys and probably in the liver. 2. This trophic disorder or inadequacy (*ralentissement de nutrition*) led to the formation of uric acid, probably in excess, and to the periodic retention of it in the blood (gouty urichæmia). 3. Histology threw no light upon the intimate nature of this defect which thus related to cellular potentiality, possibly under neuro-trophic influence, and not, so far as was known, to structural alteration. 4. This textural disability or a tendency to it might be primarily acquired and also transmitted as a fault, thereby inducing from time to time urichæmia with gouty manifestations in the descendants. 5. In most instances under conditions which provoked it, and in some cases independently of these, attacks of gout might grow up and come to a crisis. Such crises were attended by an alteration in the solubility of the uric salt in the blood whereby irritating crystals of biurate of sodium were produced and precipitated in various parts of the body. 6. A paroxysm of gout, the sites of its occurrence, and its metastases were determined by nervous influences, probably dominated from the bulbar centre, and the local attacks alighted either in the joints or in textures which had been weakened or rendered vulnerable by impaired nutrition owing to past injury or over-use. 7. This central neurosis was an essential and transmissible feature in the pathogeny of gout and pertained to the arthritic diathesis generally. 8. The urichæmia of gout was peculiar and unlike that which was induced by other morbid conditions, but the occurrence of urichæmia in the gouty was by itself inadequate to induce attacks of gout. 9. Uratic deposits in any part of the body might be removed in course of time but were apt to be permanent in the least vascular tissues. 10. Uratic deposits might occur to an enormous extent in gouty persons without the occurrence of any pain or paroxysms. 11. The clinical features of gout indicated that both *hæmic* changes (due to inherent morbid tissue metabolism) and a *neuro-trophic disturbance* acted as pathogenic factors, and consequently gout was to be regarded as a neuro-humoral malady.

Diagnosis of Renal Insufficiency.

Dr. CH. ACHARD and Dr. S. LAACHE read papers upon this subject. Dr. Achard dealt chiefly (1) with the results of cryoscopy applied to the urine and blood serum, an index of the permeability of the kidney being thereby obtained, and (2) with the conclusions to be drawn from the elimination of a foreign body (usually methylene blue) in the urine.

Dr. LAACHE said that treatment ought to be prophylactic by preference, but if that was impossible the well-known methods of treatment in kidney disease ought to be followed. Special attention must be given to the state of the heart.

Muco-membranous Colitis.

Dr. ALBERT MATHIEU (of the Hôpital Andral, Paris), Dr. F. BOAS (Berlin), and Dr. JULIUS MANNABERG (Vienna) read papers upon this subject. Dr. MATHIEU said that constipation, often spasmodic, was the rule in muco-membranous colitis. Diarrhœa, which was always of short duration, was the result of an attack of catarrhal colitis. There was always in muco-membranous colitis a secretional irritation of the mucous membrane. The disease only showed itself in its full intensity in persons predisposed by previous neuropathic tendency. Nervous derangement produced hyperæsthesia of the walls of the large intestine and interfered with its motility. In treatment, castor oil, copious enemata, and belladonna were useful. Drastic purgatives, astringent injections, and massage should be avoided.

Dr. BOAS said that the only positive diagnostic symptom was the existence of the characteristic mucous masses; other symptoms, such as tenderness of the colon, coloptosis, moveable kidney, and intestinal atony, went no further than supporting the diagnosis. It was absolutely necessary to decide whether the muco-membranous colitis was idiopathic or a complication. Differential diagnosis was required only as between muco-membranous colitis and colitis mucosa. By frequent observations and the systematic employment of intestinal injections a decision would be almost always possible. The clinical history of muco-membranous colitis was exactly parallel to that of habitual constipation, and methods of treatment which were suitable for the one were also suitable for the other.

Dr. MANNABERG said that a distinction must be drawn between enteritis membranacea and colitis mucosa. By the former name was understood a sub-acute or chronic catarrhal affection of the large intestine accompanied by evacuations particularly rich in mucus. Colitis mucosa was the name of a morbid condition characterised by paroxysmal attacks of colitis followed by the evacuation of masses of mucus. The former variety was, in fact, only a catarrh of the large intestine, accompanied by an abundant evacuation of mucus; it had in a general way the same pathogenesis as catarrh of the large intestine. Colitis mucosa had, on the contrary, a special pathogenesis. In the great majority of cases its basis was a general neuropathy (hysteria or neurasthenia) and there was a tendency to consider it as a neurosis. The paroxysms might be induced by certain factors of occasional occurrence, the principal of which were diseases of the genital organs (both in the male and the female), mental disorders, constipation, irritating rectal injections, and organic diseases of the intestine. The pathological anatomy of enteritis membranacea was the same as that of enteritis in general. With regard to colitis mucosa, in the very rare cases in which an

examination had been possible, either in the living or the dead subject, no appreciable lesion of the mucous membrane had been discovered.

Pulmonary Œdema.

Professor BASCH (Vienna) read a paper upon this subject. He said that the primary pathogenic condition of pulmonary œdema was the stoppage of the capillary circulation in the alveoli from the increased blood-pressure in the left auricle. The second was that there was a free supply of blood from the right side of the heart coming through the pulmonary arteries. The mechanical consequences of these two conditions were the enlargement of the pulmonary alveoli and the increase of the resistance of the alveolar walls. The enlargement was produced by the lengthening of the capillary vessels and the increase of resistance by the high tension of the blood in the capillary network. To these two consecutive processes might be added exudation into the alveoli, a natural consequence of the impeded circulation in the lungs. The enlargement of the alveoli and the increase of resistance in their walls created a mechanical obstacle to respiration and a consequent impairment of the aeration of the blood, giving rise to the sensation of dyspnœa, which was only the expression of the disproportion between the respiratory effort and its effect. This morbid sensation was aggravated proportionately to the increase of carbonic acid which accumulated in the blood through the interference with its aeration. It over-stimulated the respiratory centres and threw the respiratory muscles into forced action. The difficulty became greater when intra-alveolar exudation was added to the preceding conditions of enlargement of the alveoli and increase of resistance in the lungs. Mere exudation without concomitant enlargement did not interfere with respiration so much as was believed. Persistent dyspnœa increased the carbonic acid in the blood, and death of the heart from general asphyxia was the result. Cardiac dyspnœa, cardiac asthma, and pulmonary œdema had their starting-point in muscular insufficiency of the left auricle, and not only in primary insufficiency which was characterised by low arterial pressure but also in secondary insufficiency which was characterised by increase of the arterial pressure.

Professor MASIUS (Liège) said that œdema was an abnormal accumulation of lymph, and that acute pulmonary œdema was only a particular variety of it presenting two peculiar characters depending on the activity of the pathogenic process and on its special situation; these were (1) the accumulation of fluid in the lymphatic tissue combined with the more important symptom that fluid collected in the alveolar cavities either by rupture of their walls or by exudation through them; and (2) the suddenness with which the phenomena appeared. The theories of the pathogenesis of this œdema regarded in a general way were three in number: (1) the purely mechanical theory which attributed the œdema to a great increase in the lateral pressure in the capillary vessels and which ought to be rejected; (2) the opinion of Hamburger and Heidenhain which considered that lymph was secreted by the endothelial cells of the capillary wall and that œdema was an exaggeration of this function; and (3) the theory of Starling, Winter, and Théaulon, which ascribed the genesis of œdema to modifications of the osmotic relations between the liquids on each side of the vascular wall and to variations in the permeability of this wall. Two prominent facts had here to be considered. In the first place, an active, simple, non-inflammatory hyperæmia of the vessels without obstacle to the flow of liquid was by itself incapable of producing œdema. In the second place, lesions of the capillary walls, involving an increase in their permeability, were an important factor in œdema. Clinically, pulmonary œdema occurred in three forms. 1. *Inflammatory œdema*, which was probably a reflex vaso-dilatation, developed under the influence of some causal factor and followed by a direct lesion of the walls by microbes living in the interior of the normal pulmonary parenchyma. 2. *Œdema of stasis*, which was by far the most frequent and was met with in diseases of the heart especially in commencing stenosis, in diseases of the vessels such as aortitis or arterio-sclerosis, and in diseases of the kidney such as primary sclerosis. Much experimental work had been done on this subject, but the conclusions were often contradictory. The fact which appeared best established was that œdema might be produced under the influence of an increase of pressure in the pulmonary arteries arising from an increased activity of the right ventricle concomitant with a stasis due to inaction of the left heart. 3. *Toxic œdema*, which was hardly known except in experimental research, examples being the œdema produced by muscarine and by iodine.

M. TEISSIER (Paris) said that acute œdema or serous apoplexy of the lung must be distinguished from the varieties of pulmonary œdema, the evolution of which was generally slow or chronic, and which had a mechanical or passive origin. The special nature and different origin of acute œdema were indicated by its sudden onset and by the absence of fibrin in the effused fluid. Clinically it was distinguished by premonitory sensations of tickling in the throat or painful intra-thoracic tension and by intense dyspnœa, accompanied by continuous spasmodic cough and soon followed by frothy-red expectoration, with abundant fine râles to be heard over the œdematous region. For its production either infection or the previous action of a toxic agent was necessary. Among infective conditions, acute articular rheumatism, influenza, puerperal septicæmia, typhoid fever, and pneumonia held the first place. The requisite toxic action was exercised chiefly by Bright's disease and by alcoholism. This preponderating influence of infectious and of toxic influences was proved by experiments on the artificial production of pulmonary œdema by means of muscarine, prussic acid, salicylate of methyl, nitrite of amyl, and even by the injection of salt solution. Heart-disease was another important factor. Acute œdema of the lung was distinguished from passive and chronic œdema not only by its pathogenesis and symptoms, but by the fact that these two varieties of pulmonary œdema have a totally different prognosis, acute œdema being often extremely dangerous and capable of causing the death of the patient in a few hours. With regard to treatment, experience had shown the undeniable value of blood-letting. Atropine had given only negative or untrustworthy results. Morphia was dangerous and ought not to be employed.

Ulcerations of the Stomach.

Professor DIEULAFOY (Paris) made a report upon this subject. He did not take into consideration all the symptoms and all the complications of gastric ulcerations, but selected a few types, including (1) erosion, which was the smallest of the ulcerations but might nevertheless lead to copious hæmorrhage; (2) lesions of the mucous membrane somewhat larger than erosion, and for which he proposed the name "exulceratio simplex"; (3) simple ulcer (*ulcus simplex*), the most formidable complications of which were hæmorrhage and perforation; and (4) specific ulcerations of the stomach due to tubercle and syphilis.

THE MEDICAL DISEASES OF INFANCY.

The Artificial Feeding of Infants.

Professor A. JACOBI (New York) read a paper on this subject. He said that the results of the analyses of human milk were contradictory, that no two were alike. Alterations in different periods of lactation which were asserted by some were denied by others; those caused by menstruation, sickness, or ingesta were either well understood or dimly appreciated, but rarely measurable. The nature of its proteid, whether uniform or compound, was not sufficiently known. Whether there was an essential quality that was beyond the domain of chemistry was not known. That was why so many and so different iron-clad rules had been established for the selection of substitutes and why the uncertainty had rendered experimentation with commercial substitutes by chemists, and even by respectable clinicians, so common. If human milk were a uniform body the demand for an exactly equivalent substitute would be justified. Nature, however, was more liberal in allowing latitude than a chemist. Heat both improved and injured milk. When milk was exposed to from 68° to 70° C. for 10 or 15 minutes the bacterium coli and the bacillus lactis aerogenes were destroyed; after long exposure this heating killed pathogenic germs; at 80° C. it coagulated albumin and changed the taste and odour of the milk; even at 70° C. it changed casein so as to impair its value for dairy purposes. In boiling a part of the albumin was deposited, the lecithin was destroyed, and the fat was altered both chemically and physically. Serious changes appeared to take place through long boiling, both in casein and in nuclein. High temperatures continued for hours were required to destroy some of the long-lived spores; their injuriousness, however, was not entirely clear. Boiled, pasteurised, or sterilised cow's

milk was never woman's milk; it was not a curative agent; it afforded, however, the great advantage of destroying fermenting and pathogenic germs; that was why it was indispensable in large cities and during the prevalence of certain epidemics, and wherever fresh and unpolluted milk was not accessible. When employed as exclusive infant food cow's milk watered or not was liable to cause constipation, or diarrhœa, rickets, and scurvy. To preserve its bactericidal effect heat should be followed by immediate and rapid cooling, but not freezing. Ample dilution of the artificial food of the infant, and particularly of the newly-born, was required because of the heterogeneous composition of cow's milk; even those who were as usual put to an incompetent breast required water to combat loss of weight and the tendency to nephritis and to nephrolithiasis, the former of which was still more frequent than the latter, indeed very frequent. A large amount of liquid did not interfere with the motility of the stomach and did not cause dilatation, firstly because the normal infant was no glutton and secondly because absorption began at once. Easy and equal digestibility of the casein in woman's and in cow's milk was either asserted or denied by good observers. When cereal decoctions were mixed with cow's milk its casein was claimed and proven to precipitate in fine tufts. On the other hand, cereals were said to have no such effect any more than water. The digestibility of a certain amount of amylum, such as was contained in cereals, had been erroneously and persistently denied when it had long been proven both by experience and by experiments to exist. Cereal decoctions were the proper diluents for the surplus casein of cow's milk. Milk sugar was partly absorbed in the stomach, partly in the intestine, and partly changed into lactic acid. It was required for digestion and was an antiseptic. Not enough of it, however, could be given to have the latter effect to the same degree that was exerted by flours. Besides, milk peptones disappeared with acid fermentation. That was why milk sugar should not be given in large quantities but other carbohydrates in its stead. Cane sugar should take its place particularly as for the purposes of digestion there was milk sugar enough in cow's milk that formed part of every artificial food, and because there was a ferment in the intestine of the young which inverted cane sugar and rendered it absorbable. Besides, every other carbohydrate had the same power to protect albumin against putrefaction. Fat was added to cow's milk for the alleged purpose of increasing its nutritive property by preventing the loss of the fat and albumin of the tissues and by loosening and separating the minute particles of casein. It should be remembered, however, that even human milk often contained so much fat as to cause "fat diarrhœa," that the normal infant in the fæces eliminated unchanged fat in goodly quantity, that moreover the fat globules of cow's milk were larger, less numerous, and less absorbable than those of woman's milk, that the two fats were not equal chemically, and that the urine was liable after feeding with cow's milk fat to contain ammonium, and the gut toxins. The mineral constituents of cow's and human milk were different. The addition of chloride of sodium to artificial foods was required both for physiological and chemical reasons. Home-made artificial foods were preferable to the proprietary foods of the market for many reasons. The separation of the component parts of cow's milk by mechanical means and the recomposition of the same was a procedure of doubtful value. The experience of the physician and of the well-directed public at large was equivalent at least to laboratory and library theories based on facts that were *sub judice*.

Dr. O. HEUBNER (Berlin) read a paper upon this subject. He said that a scientific set of rules could not be drawn up for the artificial feeding of children except by a study of the healthy infant born at full time. As rules for feeding a healthy workman could not be laid down by the study of a diet of an invalid, so a normal infant could not be fed by studying the difficulties or successes obtained in feeding unhealthy children. This, however, was what medical men very generally did, because they were so constantly brought into relation with invalid children. The common sense of nurses, however, had always understood that nothing could replace the milk of the mother so well as the milk of some animal. The milk of the various domestic animals, especially that of the cow and of the goat, did not differ more from the milk of a woman than the various sorts of meat differed the one from the other, such, for instance, as pork and beef, which the healthy child, like the adult, could eat alternately. The intestine of the healthy infant was capable of digesting the milk of the cow just as well as the milk of a woman. The labour of digestion, however, was greater in the former case than in the latter, for large proteid molecules required a greater digestive effort than the small hydro-carbon molecules, and cow's milk was very rich in the former, while the milk of a woman was rich in the latter. Other difficulties of artificial feeding arose from infection or decomposition to which the milk of an animal was always exposed before the child got it. As regards this danger, the sterilising of milk was one of the most important advances made during this century. There was no need to boil milk for half an hour, it was quite enough to boil it for five or ten minutes, and even if the milk was only heated for 25 minutes to 65° it appeared to be sufficiently sterilised without undergoing any disagreeable modification either in its taste or in its nutritive value. If a dyspeptic infant had to be artificially fed it was quite another affair, for the digestive power was considerably weakened. It was not so much the proteid matters of the milk which offered the greatest difficulty, but the fat. There were various ways of getting over this difficulty. The quantity of fat and of proteid substances could be lessened by diluting the milk with boiled water and adding sugar so as to bring it up to the proportions which existed in the milk of a woman—that was to say, 7 per cent.; instead of the sugar some other carbohydrate might be added, such as powdered biscuits. On another plan the milk might be peptonised. Another plan was to add skim milk or to replace the sugar of milk by another sugar—namely, maltose. These were the principal plans which had been adopted in the preparation of artificial milk.

Dr. MONTI (Vienna) read a paper upon the Scientific Principles involved in Preparing from the Milk of an Animal an Equivalent Diet to the Milk of a Woman. He pointed out that the acidity of cow's milk could be reduced to that of the milk of a woman by the addition of carbonate of potassium. Coagulation should be arranged so as to take place in the same manner in the milk of the cow as in the milk of a woman. To do this equal quantities of cow's milk and of butter-milk should be mixed together and a little carbonate of potassium added. The proportions of casein, of fat, and of sugar could all be arranged to be in the proper proportion by the use of a mixture of milk and butter-milk.

Dr. AXEL JOHANNESSEN (Christiania) read a paper upon the Sterilisation of Milk and Mode of Use. He pointed out that to sterilise milk completely by boiling at the ordinary atmospheric pressure it would be necessary to cook it for several hours; but sterilisation could be carried quite far enough by other methods, of which the best and simplest was pasteurisation at 70° C. Great care should be taken to look after the milk-supply so that the supply of raw milk should be as free from germs as possible. The milk after pasteurisation should be cooled down to about 17° C. and used within 12 hours.

Dr. VARIOT, of the Hospital for Sick Children, Paris, read a paper upon the Sterilisation of Milk from a commercial point of view so as to be applicable to the needs of a great town. He described the plan adopted in Paris which was as follows. The milk was put in bottles holding a quarter or half a litre. It was raised to a temperature of 115° C. and the bottles were then sealed by corks covered with paraffin. Milk so treated would keep 15 days or more. At the Belleville Dispensary 150 litres of this milk were distributed per diem to poor children. The greater number of these children could take this milk without difficulty, beginning at the age of from two to three months. At an earlier age than this it must be diluted with a third or a fourth of boiled water and a little sugar added. Even wasting babies had improved by the use of this milk, and out of 800 cases there had never been an instance of Barlow's disease. Rickets was quite exceptional as well as marked constipation or anæmia.

Professor D'ESPINE (Geneva), Dr. MARFAN (Paris), Dr. CONCETTI (Rome), Dr. VIOLI (Constantinople), Dr. ESCHERICH (Gratz), Dr. SEITZ (Munich), Dr. SCHLOSSMANN (Dresden), and Dr. GRAANBOOM (Amsterdam), took part in an interesting discussion.

Gastro-Intestinal Infection in Children at an Early Age.

Dr. ESCHERICH (Gratz) read a highly technical paper upon the Part played by Microbes in Gastro-intestinal

Diseases. He pointed out that by the use of the Gruber-Widal reaction it was possible to differentiate the variety of the bacillus coli existing in one individual both from that existing in another individual and also from those which were introduced with the food. Gastro-intestinal affections due to the action of bacteria must be classified according to their etiology.

Professor A. BAGINSKY (Berlin) read a paper upon the Gastro-Intestinal Affections of Children from the point of view of pathological anatomy. These he divided into—I.—Functional troubles comprising acute dyspepsia not marked by any important anatomical changes. II.—1. Anatomical alterations: (*a*) lesions of a catarrhal nature, such as sub-acute dyspepsia, accompanied by cellular infiltration of the mucous membrane; (*b*) infantile cholera with destruction of the intestinal epithelium over a large surface; (*c*) chronic gastro-intestinal catarrh; and (*d*) intestinal atrophy. All these latter processes—namely, from *a* to *d*—were accompanied by vomiting, diarrhœa, and colic. Assimilation was impaired and the functions of the liver and of the pancreas were disturbed. 2. Anatomical lesions localised in the follicles. These might be divided into (*a*) simple follicular enteritis accompanied by a moderate degree of fever, a slight pain, and the secretion of blood; and (*b*) severe infectious follicular enteritis. In this there were destruction of the mucous membrane and the formation of abscesses. III.—Both functional troubles and the more severe morbid processes were due to infection or intoxication produced from within. Such were the direct action of the normal microbes of the intestine the virulence of which was exalted under particular circumstances. They could also be produced from without by the influence of toxins derived from the food or by microbes introduced with the food which became virulent in the intestine or finally some poison might be contained in the food. IV.—Those morbid processes which were most often developed during the heat of the summer were caused by the common saprophytes or their toxins, but these microbes were not specific. Septicæmia arising from the intestine was very rare. Cases had been reported where the infection had been localised in the kidney and where the infarct had gone on to suppuration or necrosis.

Professor FEDE (Naples) read a paper mainly dealing with the Symptoms and Treatment of Chronic Forms of Gastro-intestinal Infection. The clinical features noted were very various as they depended upon the intensity, the duration, the complications, and the atrophy which followed the disease. As to treatment, rules of hygiene and of diet came in the first rank. In very acute cases nothing should be given but water and, as a rule, artificial feeding by means of a feeding-bottle should be given up and a wet-nurse substituted. It was of great importance to clear out and to disinfect the intestine. This could be done by such drugs as castor-oil or calomel and by washing out the intestine with some disinfectant solution.

Dr. MARFAN (Paris) read a paper upon the Causes of Gastro-enteritis in Infants. He said that dyspeptic gastro-enteritis arose mainly from improper feeding, that infectious gastro-enteritis was principally caused by germs in the milk of the cow being conveyed into the digestive tract. Toxic gastro-enteritis resulted from the introduction of some chemical poison into the digestive tract. Poisoning by drugs was not uncommon, but the usual source of poisoning was milk, due to its containing toxins which had been produced by the action of germs before sterilisation. Other kinds of gastro-enteritis were consecutive to various maladies, such as, for instance, measles, influenza, or diphtheria. Infantile cholera or summer diarrhœa seemed to be due to a combination of circumstances—namely, some alterations in the digestive secretions set up by the hot weather which brought about a kind of self-poisoning, the increased growth of microbes in the milk of the cow under the influence of high temperature, and, finally, the formation of microbes of toxins before sterilisation.

Infantile Tuberculosis.

Professor D'ESPINE (Geneva) read a paper upon Prophylaxis in Infantile Tuberculosis. He said:—1. Infantile tuberculosis was a parasitic affection acquired by contagion in the child in the same way as in the adult. There were, however, exceptional cases in which the infection was congenital, being acquired by way of the placenta. 2. The source of the contagion in the immense majority of cases was from the sputum of tuberculous adults. 3. Another source of contagion was by way of the milk of cows, or very occasionally of goats, which were suffering from tuberculosis of the mammary gland. This mode of infection played a more important part in the infant than in the older child. 4. In infants up to the age of two years kissing by their mothers or nurses who were affected with phthisis appeared to be the usual mode of transmission. Sometimes contagion was carried directly by aspiration into the bronchi of saliva which contained bacilli. 5. In the child of between two and six years of age tuberculosis was very frequent and, as a rule, commenced in the bronchial glands. The greater frequency of tuberculosis between the ages of two and six years was explained by the habit which children had of putting everything in their mouths and of sucking their fingers. 6. From the age of six years up to that of puberty the frequency of tuberculosis commenced. There was a very real danger of contagion owing to the circumstances of school life, but in D'Espine's opinion this danger had been exaggerated. 7. The infection of tuberculosis occurring through the skin was very exceptional. 8. Hereditary predisposition played an important part in the production of tuberculosis in the child. It was therefore necessary that prophylactic measures should be specially applied to the children of tuberculous parents. Measures of prophylaxis might be divided into two classes—namely, those which went to diminish the danger of contagion and those which raised the resistance of the child to the infective organism. In the first class measures directed towards giving the child a supply of healthy milk might be included. Precautions must be taken that the nurse under whose care the child was placed should be free from tuberculosis. If the mother was phthisical the infant must be suckled by a healthy nurse. If the child came of a tuberculous family the general prophylactic measures recommended by the Academy of Medicine must be attended to. In schools no phthisical person should be allowed to be either a master or a mistress. Measures for raising the resistance of the children were as follows. The building of homes in the country to which poor and weakly children could be sent. Holiday camps should be provided for scholars and any predisposition to tuberculosis in its earliest manifestations should be fought against by sending children either to some mountain station or to the sea.

Dr. HUTINEL (Paris) read a paper on Heredity in Tuberculosis. He spoke as follows: Tuberculous heredity might show itself in three ways—by a transmission of the germ itself, by transmission of the predisposition, or in various nutritive trouble. 1. (*a*) Transmission of the germ at the time of conception was at present nothing more than a hypothesis; and (*b*) it was possible, however, that the fœtus could be infected before birth through the placenta. 2. Heteromorphic heredity. 3. Hereditary predisposition. 4. Prophylaxis. From the point of view of prophylaxis the part played by the medical attendant was very important. He should pay special attention to—1. The protection of tuberculous children against infection by bacilli. 2. In tuberculous children one great danger to be guarded against was the existence of latent centres of tuberculosis which were capable of giving rise to auto-infection. 3. In phthisical children all troubles incident to growth ought to be carefully attended to where there was any suspicion of a predisposition to tuberculosis.

Professor MOUSSOUS and Dr. RICHARDIÈRE (Paris) both read papers upon the Clinical Forms of Tuberculosis in Early Life. These papers tended to show that the tuberculosis of early life was usually of a generalised form, or perhaps it should be said that it started as a local disease of one organ and became generalised during the later period of its course. The favourite point of starting of the disease was the lymphatic glands. In cases of doubtful diagnosis Professor Moussous considered that the serum reaction which had been studied by Arloing and Courmont was of great value. Dr. Richardière, however, considered that at present this method could not be universally used.

Acute Non-Tuberculous Meningitis.

Dr. MYA (Florence) read the first paper upon this subject. By far the greater number of cases of meningitis of infancy, he said, were produced by the micro-organism of Weichselbaum, meningococcus intracellularis meningitidis. The clinical types of disease brought about by this micro-organism could be reduced to two—(1) the acute type characterised by stiffness of the neck, vomiting, rigidity of the muscles, and high fever. If a post-mortem examination

was made the whole surface of the brain would be found covered with a fibro-purulent exudation. The micro-organism was easily found and would bring about the typical symptoms of the disease in animals if injected into the sub-dural space. The disease generally lasted from three to 10 days. 2. The sub-acute type produced a disease which might last for some months, and the disease described by CARR as *simplex basis posterior meningitis* belonged to this category. The symptoms were much the same as in the acute disease, only generally very much less marked. The micro-organism was only very sparingly found, and if injected into animals did not produce the same symptoms. There was a form of meningitis which was only very rarely observed and which was due to the streptococcus pyogenes; but this form was almost always secondary to septicæmia developed within the cavity of the skull.

Dr. NETTER (Paris) read a paper upon the same subject. He said that a variety of cases of meningitis was due to other causes than tubercle; for instance, meningitis might arise as secondary to various diseases such as otitis, typhoid fever, or pneumonia, or it might be a primary disease such as was seen in epidemic meningitis. With regard to the diagnosis Dr. Netter said that it was impossible to put too high a value upon Kernig's sign. Cases where this sign had been met with where there was no meningitis were so rare that they were almost justified in asking whether the absence of meningitis was really definitely proved. As to treatment that by means of hot baths introduced by Anfrecht was of the greatest value.

III.—SURGERY.

GENERAL SURGERY.

Pancreatic Surgery.

Professor CECCHERELLI (Parma) arranged his conclusions under 24 headings, of which the following were the principal:—(*a*) Emaciation, presence of fat in the fæces, sugar in the urine, bronzed skin, jaundice, and pain were met with in the majority of pancreatic affections. (*b*) Complete extirpation of the pancreas was difficult on account of its deep situation and its intimate connexion with important viscera rich in vessels and nerves. (*c*) Surgical intervention was more justifiable at the small end of the pancreas than at the head. (*d*) Extirpation should not be attempted in cases of tuberculous or syphilitic lesions. In partial extirpation one of the two canals must be left. (*e*) Pancreatic tumours were generally either blood cysts following injuries or retention cysts. In the latter case surgical intervention was useful, but should be limited to excision of the cyst. It was necessary to keep in mind the question of opening Wirsung's canal and the probable discharge of pancreatic juice into the abdominal cavity. (*f*) Pancreatic calculi might be extracted. (*g*) Necrosed fragments of the pancreas might be removed. (*h*) In suppurative or gangrenous pancreatitis the rule was to do nothing during the acute stage. For the treatment of abscess or gangrene of the pancreas three routes were available—the lumbar extra-peritoneal, the transpleural, and the median supra-umbilical. (*i*) In hernia of the pancreas caused by injuries reduction and even fixation might be performed. (*j*) In contusions and wounds of the pancreas, if there were hæmorrhage it might be arrested either by sutures or by tying the bleeding vessels. Clots of blood in the abdominal cavity should at the same time be removed. (*k*) Experimental pathology justified the fixation of moveable pancreas. (*l*) If from any cause the duct between the pancreas and the duodenum became closed a new passage might be made for the pancreatic juice or a pancreatic fistula might be established. (*m*) Stitches through the pancreatic parenchyma did no harm, and were tolerated as in the kidneys, the liver, and the spleen. (*n*) In suturing the pancreatic duct the stitches should not pass into the interior of the duct, as concretions were liable to be formed on them. (*o*) Regeneration of the pancreas had been observed. (*p*) After complete extirpation of the pancreas great development of the glands of Galeati had been observed, and especially a karyokinetic increase in the epithelia, leading to the supposition that the missing gland might be thereby replaced. (*q*) The thermo-cautery or galvano-cautery ought not to be used in extirpation of the pancreas.

Mr. MAYO ROBSON (Leeds) commenced his report on the same subject by stating that he was convinced that pancreatic affections were much more common than was usually thought. He based his remarks on his personal experience, he having operated on 40 cases of pancreatic disease and having seen a considerably larger number of cases in which operation was either not consented to or not thought advisable. Under "anatomical considerations" he dwelt on the importance of posterior drainage where practicable in acute and in suppurative pancreatitis. For reaching the main pancreatic duct he had found it practicable to incise the second part of the duodenum and lay open the termination duct from the papilla.

Cancer.—In over 50 cases which he had seen he had found cancer usually to occur after 40 years of age and he believed that the cases occurring earlier in life were in many instances chronic interstitial pancreatitis, which might resemble cancer not only in the symptoms but in the naked-eye appearance after death. After describing the symptoms he remarked on the importance of distinguishing between cancer of the head and that of the body and tail of the pancreas; he then discussed the diagnosis and advised that especially in young subjects, but also at times in older patients, a hopeless prognosis should not hastily be given before surgical treatment had been tried, as if the case turned out to be chronic interstitial pancreatitis a cure might result from treatment. In describing the treatment he thought that excision of the pancreas for cancer could seldom be feasible or justifiable except in those cases where the disease was limited to the body or tail of the organ, and then only when it was caught in an early stage. Of the 15 cases on which he had operated for the relief of symptoms by cholecystotomy or cholecystenterostomy, nine recovered and lived for some time in greater comfort. The important fact, however, that some of the cases operated on and thought at the time to be cancer of the head of the pancreas, but which recovered and were now in perfect health, showing the tumours to have been chronic interstitial pancreatitis and not cancer, led Mr. Mayo Robson to advocate operation in all cases not too far advanced, especially in young or middle-aged patients, not because much good would be done if the case were truly cancer, but under the hope that the tumour might be inflammatory and not malignant.

Pancreatic cysts.—He had operated on five cases of pancreatic cyst for which as a routine treatment he advocated incision and drainage which he had performed in four cases with three recoveries. In one case the cyst was so easily enucleated that it was removed in that way and the patient made an uninterrupted recovery, but his experience, not only in his own case, but others seen under the care of his colleagues, would lead him to believe that incision could only rarely be justifiable. In none of his cases were any pathognonomic symptoms present and he thought that the diagnosis must usually be made from the physical signs.

Pancreatitis.—He drew a parallel between the inflammatory diseases of the liver, such as infective and suppurative cholangitis and chronic interstitial hepatitis and similar diseases of the pancreas and its duct. He believed he had seen functional ailments of the pancreas ending in recovery that would come under the heading of infective catarrh of the pancreatic ducts, and he adduced positive evidence of suppurative catarrh of the ducts as well as of chronic interstitial inflammation of the gland. He believed that as diagnosis became more perfected these diseases would be more frequently recognised and awarded their proper place in medicine. He assented to the pathological classification proposed by Fitz, of dividing acute pancreatitis into suppurative, hæmorrhagic, and gangrenous pancreatitis, but for clinical purposes he considered the subject under acute, subacute, and chronic pancreatitis. In discussing the etiology he laid stress on bacterial infection as being the essential and immediate cause, but enumerated a number of extrinsic causes, such as gastro-duodenal catarrh, injury, and pancreatic and biliary lithiasis. The mode of infection he believed was nearly always through the ducts. He discussed the symptoms, signs and diagnosis, and remarked that although pancreatitis was a disease without exact pathognomonic signs the diagnosis could usually be arrived at by a careful study of the history, mode of onset, and the combination of symptoms and signs. A case of acute infective pancreatitis coming under Mr. Mayo Robson's observation was related; also four cases of the suppurative form which were operated on after abscess had formed; of two, in which the pus was evacuated by an incision in the loin, recovery followed; and of two opened from the front both died. In both cases leakage of pus

had previously occurred into the stomach and the pus had been vomited. In one case of suppurative pancreatitis in which rupture of the abscess occurred into the bowel the patient was too ill when seen to bear operation, and gradual recovery occurred without surgical treatment. The treatment of acute infective and frequently that of suppurative pancreatitis practically resolved itself into that of peritonitis commencing in the superior abdominal region, and Mr. Mayo Robson laid stress on the getting rid of inflammatory products by lumbar drainage if practicable, although it might be necessary to make the diagnosis by an anterior incision. In the acute form he drew a comparison between gangrenous appendicitis and acute infective pancreatitis and considered surgical treatment just as necessary in one as the other as soon as a probable diagnosis could be arrived at. If there be great distension in the epigastrium it would be easier and safer to make the exploratory incision in the left costo-vertebral angle. Treatment other than operative in order to get rid of distension, relieve pain, fever, and other symptoms until a definite diagnosis could be made was also considered. The details of reaching the abscess when found were also discussed, whether the collection be lumbar, subdiaphragmatic, epigastric, or pelvic.

Chronic interstitial pancreatitis.—Mr. Mayo Robson laid great stress on the importance of this disease which he believed was often mistaken for cancer of the head of the pancreas and which he believed had not received much attention either from clinical observers or from pathologists, certainly not as much as it deserved. His experience in this class of cases had resulted from his having, operated on a considerable number of cases of jaundice depending on obstruction in the common duct, the obstructive jaundice, wasting, paroxysmal attacks of pain and ague-like seizures having given rise to the suspicion of gall-stones and the absence of relief by medical treatment having rendered surgical treatment necessary. He argued that its recognition was of vital importance since it was a disease not only capable of relief but of absolute cure by surgical treatment. He illustrated his assertion by a brief report of 15 cases on which he had operated with recovery in 14. In the fatal case, operated on when the patient was almost too ill for recovery, a necropsy showed a simple cirrhosis of the head of the pancreas. In another case in which relief was given by cholecystenterostomy, but in which there was a recurrence of the trouble owing to closure of the opening followed by death three months afterwards, a necropsy showed chronic interstitial pancreatitis and not cancer, as the course of events had led those observing the patient to suppose would be found. Mr. Mayo Robson believed that chronic interstitial pancreatitis with inflammation in the pancreatic duct was a regular accompaniment of gall-stones in the common duct, and that it frequently continued after the original cause had passed; this observation had been confirmed by Dr. J. H. Ferguson of Edinburgh, who said that his almost universal experience in cases where death had resulted from infective or suppurative cholangitis was that beads of pus could be expressed from Wirsung's duct. The cases related illustrated the symptoms and the treatment by cholecystotomy, which at once removed tension and allowed the pancreatic duct to empty the organ of its infective products. Doubtless at times the manipulation of the head of the pancreas which occurred during the operation might detach calculi and inspissated mucus or pus from the pancreatic duct. The simulation of malignant disease of the head of the pancreas by chronic interstitial pancreatitis should lead the surgeon to hesitate in declining operation in any case of distended gall-bladder with jaundice where the patient was able to bear it, as, although little good would be done if the disease were malignant, should the disease prove to be inflammatory a real and permanent cure might be brought about. After some remarks on hæmorrhagic pancreatitis, which in Mr. Mayo Robson's experience of three cases had always been traumatic and associated with effusion into the lesser peritoneal sac, he discussed the subject of pancreatic calculi, which, both from the paucity of specimens in the museums, from the very few examples found post mortem, and from the very few recorded cases, he believed must be a rare disease, and usually only recognised by the pancreatitis and the obstruction to the common duct with infective cholangitis to which the calculi gave rise. For their removal he recommended exploration of the duct through an opening in the second part of the duodenum, of which operation he gave examples. In conclusion, he looked forward to the time when pancreatic diseases would be awarded the place they deserved in the diagnostic efforts of the physician, and when the surgeon would be called on much more frequently to treat them at a stage when operation, whether exploratory or curative, might be undertaken with every hope of temporary success or permanent cure.

Dr. JULES BOECKEL (Strasbourg) described at considerable length the details of operations on the pancreas.

Radiography in the Study of Fractures and Dislocations.

Dr. G. MANOURY (Chartres) said that in order to lessen the chances of erroneously interpreting the appearances shown by radiography it would be desirable to mark certain data on the photographic plates, especially the point where a perpendicular drawn from the focus to the plate met the latter. Radiography had rendered great service in the diagnosis of fractures by revealing the number of the fragments, their form, their position, the overlapping of their ends (which when the photograph was well taken corresponded with sufficient exactness to the shortening of the limb), their displacement in different directions, and the position of splinters. For the purpose of gaining an accurate knowledge of the nature of a fracture it was necessary to take radiographs of it at different angles, usually a front view and a side view. It was possible for a fracture to be unrecognised, even though the bone was examined in various directions; this, however, was very rare. Radiography was useful in all fractures. Among those in which it was most valuable the following might be mentioned: fractures of the upper extremity of the humerus, which so often produced stiffness and ankylosis attributed to periarthritis; fractures of the lower end of the radius which frequently accompanied lesions of the carpus; fractures of the leg, especially those involving the articulation of the tibia and the tarsus, in which last radiography was the only means of obtaining exact information as to the relations of the astragalus, tibia, and fibula, a matter of great importance in the prognosis and treatment of these fractures; fractures of the astragalus, which were some years ago erroneously considered to be very rare; and finally, fractures of the metatarsal bones, the anatomical lesion of a condition well known to military surgeons, the cause of which had for a long time been discussed without its real nature being suspected. The formation of callus might be studied by means of radiography. At the end of 12 days there appeared at the ends of the bones a slightly shaded area which became gradually darker. In certain cases, especially in oblique fractures of the tibia, the callus might remain invisible for a long time, even after consolidation appeared to be complete. Radiography was as useful in the treatment of fractures as in their diagnosis, facilitating reduction, and enabling the position of the ends to be inspected, and, if necessary, corrected, during the process of consolidation. Radiography also showed in what fractures wiring was required, examples of which were to be found in fractures of the elbow and ankle. Radiography had not done so much for dislocations as for fractures, but a certain number of unrecognised dislocations had been diagnosed by this means. Unfortunately, it gave no information as to the most frequent causes of irreducibility.

Professor E. VON BERGMANN (Berlin) said that their knowledge of fractures had during the last ten years made two important advances—firstly, the operative treatment of certain simple fractures by the exact apposition of the fragments, and secondly the recognition of the seat of fracture and of the pathological anatomy of the osseous lesions by means of radioscopy and radiography. Without doubt there were manifest local causes which hindered the consolidation of fractured surfaces. It was known, for instance, that the interposition of muscular fibres prevented the formation of callus in cases of fractured femur. Unfortunately, it was not possible by means of the Roentgen rays to make sufficiently sure of this to warrant the making of an incision. This accident might, however, be inferred when the view obtained with the fluorescent screen showed the fractured surfaces at a distance from one another (dislocatio ad longitudinem) and between them a more or less transparent interval which was always of the same width whatever position might be given to the fractured limb. Other local causes of non-union were nevertheless disclosed plainly by the Roentgen rays, occurring principally in fractures communicating with joints and in fractures of small bones. Fracture of the patella was a good example. Malgaigne

deplored the frequency of the cases in which these fractures remained ununited and long before the antiseptic era he recommended a species of cutting operation—namely, the application of his sharp hooks. Malgaigne's hooks, however, were much more dangerous than incising the skin and uniting the fragments with silver or aluminium bronze wire. Examination of recent fractures of the patella by means of the Roentgen rays disclosed three obstacles to bony union. 1. Inequality in the size of the two fragments. The upper fragment being much larger than the lower one they could only be brought into apposition by means of a suture. 2. Multiplicity of the fragments. In addition to the principal fragments there were small fragments or splinters which made their way between the principal surfaces and prevented coaptation. 3. Displacement of the fragments. One of the fragments underwent a movement of rotation, so that the fractured surface of the other fragment met it on its outer aspect and the two fractured surfaces could not be brought into contact. All these various displacements being rendered visible by the Roentgen rays it became evident that an operation was necessary to gain access to the seat of fracture, so that the conditions above enumerated might be dealt with and the fragments wired. In his clinic Professor von Bergmann had obtained perfect bony union in more than 25 cases of this kind. The operations proved that callus was of a bony and not of a fibrous nature; photographs taken with the Roentgen rays clearly showed not only this but also the firm bony union and the metallic sutures embedded in the callus. Fractures of the patella were generally treated by operation. The question of operation was different in other fractures, as, for instance, in those of the lower end of the radius, a subject which had been specially studied by Dr. E. Gallois, whose treatise, "Étude Radiographique et Expérimentale," had greatly added to their knowledge of the subject. The treatment of fractures of the patella was almost always the same, but the case was different with fractures of the lower end of the radius, the treatment of which varied according to the nature of the fracture and the displacement of the fragments. Professor von Bergmann showed in a series of photographs taken in the surgical clinic of Berlin University the most important varieties of these fractures. Fractures of the tarsal and metatarsal bones were almost unrecognised before the discovery of radioscopy. The symptoms of these fractures were attributed to an inflammatory swelling of the foot or to a contusion, and they were treated by massage which increased the displacement of the bones. When the fracture was recognised and its position ascertained it must not be disturbed, but must be immobilised completely. Professor von Bergmann showed photographs of these fractures also.

Treatment of Infected Wounds.

Dr. OSCAR BLOCH (Copenhagen) argued that from a practical point of view every wound without exception ought to be considered to be infected and that infection and its complications were due to the retention of secretions containing microbes. Antisepsis and drainage ought therefore to be the rule and in order to avoid reinfection the wound ought to be dressed rationally. Carbolic acid was, he said, the best antiseptic, and the best applications were sterilised gauze dressings containing aqueous solutions of carbolic acid, and cotton wool. He had little confidence in internal antiseptic treatment, in febrifuge treatment, or in serum treatment, including the use of anti-streptococcic serum.

Dr. FELIX LEJARS (Paris) said that every accidental wound ought to be treated as an infected wound, even though no indications of such infection might be present. The treatment ought to consist in careful cleansing at as early a period as possible, assisted if need be by excision, care being taken not to impair the vitality of the cells which form the natural defence of the living tissues and which have to be assisted in their protective actions. Sterilised water, artificial serum, and sterilised or boiled compresses fulfilled all requirements under this head. Antiseptic solutions were injurious when concentrated, and when diluted to such an extent that they did not interfere with the protective cells their action was in reality only a mechanical and cleansing one. Suppurating wounds should be exposed to the air, cleansed, drained, and dressed with some absorbent material. In cases of infected wounds, whether suppurating or not, specific serum treatment was indicated, but their resources in this respect were unfortunately very limited; anti-tetanic serum was only a prophylactic; anti-streptococcic serum had been employed chiefly in puerperal infection and erysipelas. In some foul and gangrenous wounds oxygenated water was useful. In certain cases artificial serum treatment aided the natural resisting power of the organism, increased the blood-pressure, and promoted diuresis.

Intestinal and Gastro-Intestinal Anastomoses.

Dr. ROUX (Lausanne) said that intestinal anastomosis by lateral apposition was the most practicable of these procedures. Anastomosis was preferred in cases of numerous adhesions, of inoperable tumours, and of certain inaccessible inflammatory conditions, such as tubercle and actinomycosis. It was a preliminary operation in cases of operable tumours occurring in very feeble patients and in cases of pyostercoral fistulæ it was often quite successful. Gastro-enterostomy, on account of being less dangerous, preceded pylorectomy if the state of the patient rendered it desirable. In non-malignant disease of the pylorus and stomach, for which an easy evacuation of the gastric contents was required, gastro-enterostomy was preferable to pylorectomy and pyloroplasty. It was much superior to gastroplication and gastropexy. An ordinary sewing needle was the best instrument for suturing because it was only in this way that primary union of the mucous membrane could be obtained. Murphy's button was the best contrivance of its kind; it was reserved for the cases where it was necessary to count the minutes. In all these operations there was a surprising proportion of deaths from pneumonia.

Dr. SOULIGOUX (Paris) said that in the treatment of cancer and stricture of the bowel intestinal anastomosis was the most usual principal operation or it might be a complementary operation. In cases of acute or even of chronic obstruction of the bowel the formation of an artificial anus was to be preferred. When there was retardation of the onward movement of the fæces without obstruction, if there was a moveable tumour which could be easily removed enterectomy ought to be performed, but this operation ought to conclude with an anastomosis either latero-lateral or termino-lateral. If the tumour was adherent anastomosis was the only available operation. For cicatricial stenosis of the pylorus, or of the first portion of the duodenum, or for hour-glass contraction of the stomach gastro-enterectomy was the best operation.

THE SURGICAL DISEASES OF INFANCY.

Congenital Dislocation of the Hip.

Professor HOFFA (Würzburg) read a paper upon Cutting Operations in Congenital Dislocation of the Hip. He pointed out that in cases of this deformity the operation without cutting was the one to be preferred. The cutting operation which was the best for children of from three years up to eight was that in which a new cavity was made for the head of the femur by the operation after the manner invented by Hoffa and Lorenz. This operation must be done neither too early nor too late. The best time for it was between the ages of three and eight years. That surgeon would succeed best who was able to carry out complete asepsis. The wound need not be stitched. The after-treatment was of the greatest importance as the muscles were thereby strengthened. Ankylosis did not occur except when the wound suppurated and when the operation was done at too advanced an age. Complete cure was more often obtained when the deformity was on the one side than when it was on both, and it might be said that by the Hoffa-Lorenz operation a cure was quite possible both in the anatomical and in the functional sense. There was no reason to fear any interference with the growth of the pelvis owing to the formation of the cavity in this operation. In cases of one-sided deformity in patients who had passed their eighth year osteotomy was the operation to be recommended.

Dr. ADOLPH LORENZ (Vienna) then read a paper upon the Bloodless Treatment of Congenital Diseases of the Hip-joint. This treatment, he said, was to be preferred to the operative, for the latter was not without its dangers (2 to 10 per cent. mortality according to different statistics). The ankyloses and contractures, which frequently followed, required a tedious after-treatment. The injury to, or the extirpation of, the Y-shaped cartilage of the acetabulum might result in subsequent deformity of the pelvis, on account of disturbances in development. Among the bloodless methods the treatment by means of portable apparatus could be said to be without limit; but, as a rule, without result, in spite of this fact. The gradual reduction of the head of the femur

by means of bed extension was only successful in very young children. The treatment was tedious and the confinement of active children in extension beds was detrimental to their general health. The bloodless reduction under narcosis overcame all the difficulties. Under the proper age limits it was entirely without danger. These limits were, for unilateral dislocations, the ninth or tenth year; for double dislocations, the seventh or eighth year. Ankyloses and contractures need not be feared. The bloodless reduction was performed either over the upper rim of the acetabulum by means of horizontal extension or over the posterior rim by means of vertical extension. This latter procedure was preferable, since the stronger development of the posterior rim allowed the success of the reduction to be more readily recognised. The typical reduction, over the posterior rim, was performed (without instruments) in the following manner. First, the tense adductor muscles were torn (subcutaneously) in forced abduction, by means of pressure and stretching (*myorhexis adductorum*). Secondly, the thigh, having been flexed to a right angle, was stretched vertically with the hands and adducted 90°, pressure being made at the same time upon the trochanter. The success of the reduction was manifested by positive physical and clinical signs, and could be verified by means of the radiograph. The principle of the after-treatment consisted in centering the weight of the body upon the base of the acetabulum, the base of the acetabulum resting upon the reduced head of the femur. From functional irritation the acetabulum became wider, and was deepened especially by the budding out of its upper rim. To keep the head of the femur within the acetabulum (retention), the thigh was (thirdly) fixed in extreme abduction and slight over-extension for a period of from four to five months. The extreme position was then replaced by a median position of the joint (slight flexion and lessened abduction), and the thigh was again rendered immobile for from four to five months. During this period of immobilisation the patient must be up and about as much as possible. The final treatment was carried out by means of massage and gymnastics, especially of the pelvi-trochanteric muscles, without the application of any mechanical supports. The examination with the radiograph showed that in many cases a complete anatomical restoration of the hip-joint and an ideal cure of the dislocation had been attained, inasmuch as the acetabulum had been concentrically widened and deepened under the pressure of the body weight. In another series of cases the acetabulum had been excentrically widened towards its upper extremity by the formation of a new bony upper rim. In still other cases the head of the femur could not be retained within the pan. The latter remained unchanged, an anterior superior dislocation resulting, so that the anterior crest of the ilium engaged the head of the femur. Up to the present the anatomical result had been good in about one-half of all cases. In the other half the result had been indifferent; but even in these cases where the anatomical result had miscarried, the functional result as regards endurance and symmetry in locomotion had been excellent and very much better than the result of the bloody reduction. The pathological lordosis of the double dislocation disappeared entirely. Had the bloodless reduction been unsuccessful the operative reduction by means of arthrotomy could then be performed, in which the acetabulum was left intact and the after-treatment carried out according to the principle of the bloodless method.

Dr. KIRMISSON (Paris) read a paper on the same subject. The principal point upon which he insisted was that the displacement should be reduced by means of an extension apparatus, and that the position thus obtained should be maintained by the use of an apparatus which should keep the limb in the same position as those employed in the treatment of ordinary hip disease.

Dr. BRADFORD (New York) read a paper on

The Treatment of Pott's Disease when the Deformity has been Developed.

The treatment of Pott's disease should consist, he thought, of such general measures as would promote normal metabolism and repair, and of measures to further the cicatrisation of the bony tissues involved in the tuberculous process by the protection of the affected parts from injurious pressure or jar. If a deformity had been established, its treatment presented for consideration (1) methods of connexion of the existing curve; (2) the arrest of any further development of the curve; and (3) the diminution of the progressive increase of the curve. The measures to be employed necessarily varied according to the pathological conditions as well as to the portion of the spinal column affected. The method of corrective treatment for the deformity depended upon the pathological condition of the diseased portion. Where the process was acute correction was easy; where it had existed a long time and cicatrising osteitis had been established much force was needed. Where bony ankylosis had taken place section or fracture of bone was necessary for correction. The best method of applying correcting force would naturally be that which caused the least waste of force and the least injury to the tissues. Traction under some conditions exerted force unnecessarily upon the secondary curves. In the cervical region traction was efficient. In the mid-dorsal region traction separated the diseased vertebræ, but force applied antero-posteriorly was equally, and sometimes more, efficient and exerted less strain on the unaffected parts. Corrective treatment, however, depended for its efficacy upon subsequently retaining the spine in proper position. This was necessary for a long period. The amount of correction to be aimed at depended also upon the amount of possible repair. The dangers of forcible correction, though not great if judgment were used, were not to be overlooked. On the other hand, correction with relief of pressure on the cord was often found beneficial when paraplegia was present In cases where much force was needed (fracturing bone previously affected by tuberculous osteitis) corrective methods demanding the use of considerable force were not to be recommended. Osteotomy of the kyphos was not advisable. In certain portions of the spinal column, and in certain pathological conditions, it was inadvisable to attempt the correction of the deformity. Where the deformity was not great, even in growing children, the curve could be held in check by a proper retention apparatus thoroughly employed. Plaster jackets applied to the patient in a straightened position (without an anæsthetic) or steel appliances adjusted to secure a like position carefully and constantly employed during the period of most rapid growth, formed a proper method of treatment and offered promise of success in checking an increase of the curve or even in diminishing it. Where, with a complete cure, osseous ankylosis had become established, or where a marked cervical or high dorsal curve had developed, it was undesirable to attempt correction. An arrest of the increase of the curve was sometimes difficult in the faulty growth of a distorted though not actively diseased spine or from the mechanical difficulty in securing requisite spinal fixation for a long period. In these cases treatment resulted in a diminution of the increase of the curve as the patient grew. This increase was often due to the development of compensatory curves, secondary to the kyphosis, but not directly occasioned by the tuberculous process, and could be diminished by mechanical treatment.

The Therapeutic Indications in Appendicitis.

Dr. ROUX (Lausanne) read a paper on this subject. He said the great thing to know was what one should not do. Purgatives should be absolutely forbidden throughout the whole course of the disease. Even during convalescence they should be replaced by enemata. The patient should not be moved if it could possibly be helped. Opium might be given or an injection of morphia. Ice might be applied to the seat of the disease; only caution must be used and warm applications should succeed the cold. As to the indications for operation, if the diagnosis was certain and if it was made within the first 24 or 36 hours, which very rarely happened, an operation at this stage was no more dangerous than an operation done *à froid*. After 36 hours—and this time had generally elapsed before any medical man and especially a surgeon had been called in—the operation of Dieulafoy might be carried out. Just as an operation would be quite justified if performed early, so it was uncertain in its results and often dangerous if performed during the intermediate period. But if the fever and the pain and the rapidity of the pulse persisted operation was justifiable. It was also justifiable when the fever became hectic and it was undoubtedly indicated if the patient had attacks of shivering or if the pulse kept very rapid while the temperature fell. By the surgeon attending to these rules it was possible that he might let a few patients die who were suffering from the septicæmic form but he would avoid killing a great number of others.

Dr. JALAGUIER (Paris) read a paper upon the same subject. He said that every appendix which was diseased ought to be

excised and the operation should be practised *à froid*—that was to say, when the general phenomena of infection had disappeared and when the local lesions had lost their activity. Too much hurry in operating exposed the patient to the risk of disturbing the favourable course of the disease, for the acute stage of appendicitis generally terminated by a localisation of the lesion and by its resolution when it was treated from the beginning by rest, careful diet, ice, and opium. Too hasty intervention was liable to give rise to another danger—that was to say, it was quite possible to operate upon the patient who had not got appendicitis but some of the diseases which simulated it. The only reason for intervention during the acute stage was to empty the abscess of its septic contents and to drain it very freely. In cases of very chronic appendicitis giving rise to frequent acute crises resection of the appendix was in most cases sufficient to effect a cure. In some cases, however, it would be found necessary not only to remove the appendix but to divide various bands, to free coils of intestine, or to resect portions of omentum which had become chronically inflamed.

URINARY SURGERY.

Conservative Operations in Renal Retention of Urine.

Dr. KÜSTER (Marbourg) opened the discussion on this subject. He said that renal retentions could be divided into two groups: (*a*) primary retention—i.e., cystic or sacculated kidney; and (*b*) secondary retention—i.e., suppurating kidney, of which he should say no more, as that condition almost invariably called for a radical operation. The term "sacculated hernia" was applied to all the instances of primary retention produced by any obstacle to the flow of urine, whatever be the contents of the sacs. As a general rule these obstacles were situated in the ureter and almost invariably in its upper third. Renal retention due to some obstacle in the renal pelvis should be treated by a conservative operation—i.e., the affected kidney should be preserved even if the other kidney was healthy. Conservative operations might be divided into four groups. (*a*) Fixation of a displaced kidney (nephropexy of Guyon). This simple operation must be combined with others, such as detachment of the ureter. (*b*) Formation of an anastomosis between (1) one part of the ureter and another, (2) the renal pelvis and the ureter, and (3) the renal pelvis and the bladder. All these operations should have for their end the avoidance of dead spaces, which were conducive to the formation of urinary calculi. Without this precaution the procedure was harmful. (*c*) Plastic operations with or without resection of the ureter. 1. Pyeloptychy (Israel). 2. Excision of valvular formations in the ureter and transverse suture (Fenger). 3. Resection of a kink in the ureter. Oblique resection was preferable to transverse, which might only lead to the formation of a fresh stenosis. 4. Ureteropyelostomy (Trendelenburg and Küster). (*d*) Partial resection of the kidney. 1. Resection of the pelvis with suture (Albarran). 2. Wedge-shaped section of the renal substance in cases of hydronephrosis occurring in a horse-shoe kidney.

Dr. CHRISTIAN FENGER (Chicago) continued the discussion of the subject. Remittent or commencing retention (and all retention was, in its early stages, as a rule, remittent) was a condition in which they should always consider the possibility of saving kidney tissue by re-establishment of the free passage of the urine. The obstruction might be located in the calyces, in a branch of the ureter, in the bottom of the pelvis, or origin of the ureter, or in the ureter. Obstruction in the first two places caused a local or partial cystonephrosis and demanded for the relief of the condition bisection of the kidney from its convex surface and division of the partition walls. Stenosis at the exit of the ureter (valve-formation, oblique implantation from unilateral dilatation) required operations which varied in accordance with the absence or presence of stricture at the upper end of the ureter. If there was no stricture at the upper end of the ureter the valve-formation might be overcome by a transpelvic operation (Fenger, Mynter, Trendelenburg, Küster), or by extra-pelvic operation, which he preferred. If there was a stricture of the ureter at its exit from the pelvis, as might be expected in infected cases, they might resort to extra-pelvic plastic operation (Fenger), or to resection of the strictured end of the ureter, implantation of its upper divided end into the pelvis (Küster). If the stenosis or obstruction was located in the ureter it must be dealt with according to the laws laid down for surgery of the ureter—namely, resection and reimplantation, or Dr. Fenger's plastic operation. Were the results of these, so to speak, tentative conservative operations permanent, or did relapse eventually occur? In five of his cases no relapse occurred. The conditions were as follows:—1. Valve-formation; trans-pelvic operation; no relapse six years later. 2. Stricture at the upper end of the ureter; extra-pelvic operation; no relapse six years later. 3. Valve-formation of lower branch of the ureter; extra-pelvic operation; bisection of kidney, division of partition walls; no relapse after three years. 4. Excision of valve in the ureter by Dr. Fenger's plastic operation; no relapse after three years. 5. Stone in upper end of the ureter removed by Dr. Fenger. One year later a plastic operation on the ureter was performed by another surgeon. Six months later complete occlusion of the ureter at the site of the second operation was relieved by Dr. Fenger's plastic operation; no relapse after one year. In two cases relapse occurred under the following conditions:—1. Valve-formation without stricture, intra-pelvic operation, relapse of stenosis, occlusion of pelvic orifice; nephrectomy one year later. 2. Patient operated on by another surgeon, later by Dr. Fenger; operation was incomplete, failed, and nephrectomy was finally necessary.

M. BAZY (Paris) followed who said that renal retention was said to exist when the urine remained permanently in the renal pelvis or calices owing to some obstruction to its outflow. This obstacle might be situated in any part of the ureter, in the bladder, or in the urethra. To-day he should only consider the first named. Obstruction might be due to stricture, to a kink, or to a vicious insertion, or to a calculus. (The sites of these various obstructions were then considered.) Renal retention might be remittent, intermittent, or chronic, and, what was very important, septic or aseptic. Conservative operations were not indicated except when the kidney appeared capable of doing its work. But in a case where there was only one kidney a conservative operation was indicated whatever was the state of that kidney. Treatment would vary considerably according to the circumstance of the case. Calculi might be removed; kinks sometimes got well spontaneously or might be removed by nephropexy. Abnormal insertions were amenable to treatment by plastic operations. Strictures could be in exceptional cases dilated or got rid of by an anaplastic operation. Such operations might be performed by the transperitoneal route in aseptic cases or by the lumbar route in septic cases. Transplantations of the ureter into the bladder should be done by the abdominal route. Operations by the vaginal route should not be done. Infection of the ureter or renal pelvis was no contra-indication, but renal abscess contra indicated any anaplastic operation.—Dr. LEGUEU (Paris), Dr. KUMMEL (Hamburg), Dr. D'ANTONA (Naples), Dr. NANU (Bucharest), and Dr. CASPER (Berlin) joined the three previous speakers in a debate.

The Value of Surgical Interference in Tuberculous Affections of the Bladder.

Dr. SAXTORPH (Copenhagen) made the first contribution at the Congress to this subject. He said that the question of surgical intervention in tuberculous disease of the bladder must be answered by a reference to the origin of the infection and its extent. Miliary tuberculosis of the bladder—if, indeed, it existed—was only a part of a general tuberculosis, was not amenable to surgical treatment, and would therefore not be considered here. Vesical tuberculosis almost always arose from an old pulmonary tuberculous focus—sometimes from a very old one. The vesical infection occurred in two ways: (1) the tubercle bacilli were carried by the blood-stream to the kidney, whence they were transmitted to the bladder and infected its mucous membrane (descending infection); and (2) the bacilli were carried in the blood-stream to the prostate, the vesiculæ seminales, the testicle, or the epididymis, whence they infected the vesical wall by contiguity (ascending infection). The bladder was apparently very resistant to the infection of tubercle and was hardly ever infected primarily by the blood-stream (hæmatogenic infection). Vesical tuberculosis, then, being always of a secondary nature there was no radical treatment except removal of the source of infection by nephrectomy and more or less total resection of the ureter or by destruction of the tuberculous foci in the genital organs. If this mode of treatment could not be carried out any attempt at radical treatment of vesical tuberculosis would be found to be as useless as attempting to divide water into pieces with a knife.

The infection centre having been removed vesical tuberculosis might either undergo spontaneous cure or might be treated surgically. Surgical treatment, whether in the male or in the female, should always be undertaken by the abdominal route. The bladder being opened the diseased mucous membrane might be removed by scissors, cautery, or curetting. The patient should be in Trendelenburg's position and the bladder sutured or drained according to circumstances. After-treatment, both general and local, was indispensable. All surgical treatment should be undertaken as soon as possible after the diagnosis had been made certain by the discovery of bacilli in the urine. If the infection centre could not be removed palliative treatment might be undertaken for the relief of pain. Thus the bladder might be opened by the abdominal route and the most diseased patches scraped. Drainage must be employed. It might be opened by the perineal route in the male and scraped and drained. In the female the bladder might be curetted through the urethra. The bladder might be washed out with a view to avoiding cystitis. The general health must be attended to.

Dr. HOGGE (Liège) followed with a paper upon the Surgical Treatment of Tuberculosis of the Urethra, Prostate, Testicles, and Vesiculæ Seminales. After discussing medicated topical applications he passed on to consider cutting operations for tubercle of the prostate. These operations, he said, had given good and lasting results in the hands of Guyon, Albarran, Zuckerkandel, and others. In tuberculosis of the testicle and epididymis total castration would appear to be from a study of the published results an operation only to be done exceptionally. The method of election was a conservative one consisting in resections. To sum up the matter, when the tuberculosis affected the prostate, the vas deferens, the vesiculæ seminales, the epididymis, or the testicle, an operation should be the rule when an abscess or fistula was present with or without fungation. The particular operation to be undertaken varied with the predilection of the surgeon, but some operation should certainly be done, as operation had a greater curative effect and was less risky for the patient than waiting and a purely medical treatment. Another element of doubt was the best stage of the disease at which to operate. Some surgeons counsel early operation in the initial phases of the disease, while others—and those the greater number—advised an expectant treatment. With regard to the extent of the operation, recent results of operations in which the disease was very widely removed would seem to show that for the future surgeons would be well advised to adopt free extirpation.

The Value of Surgical Intervention in Renal Tuberculosis.

Dr. POUSSON (Bordeaux) read a paper upon this subject. He said that surgical intervention for tuberculous disease of the kidney had hardly been in practice for more than 15 years, but operations multiplied so rapidly that from 1892 to 1895 he had been able to record an imposing series of statistics to which he had been able to add details of 161 cases collected in view of this paper.

I. *General results.*—(*a*) Immediate results. In 600 cases the mortality was 22·33 per cent. In the 161 cases which he had recently collected the mortality fell to 11·68 and in the practice of some surgeons it had further dropped to 8·95 per cent. (*b*) The operative mortality respectively of nephrotomy and nephrectomy was, taking all the cases together, nearly equal—namely, 20·8 per cent., as against 21·47 per cent. In the personal statistics of certain surgeons, however, incision of the kidney was more deadly than its extirpation in the proportion of 18·51 per cent. to 6·54 per cent. (*c*) The causes of death after either operation were suppression or deficiency of the urinary secretion. This occurred in 51 deaths out of 128. Other causes of death were shock, peritonitis, and injuries to other viscera or important vessels. Secondary results.—Of 63 cases operated upon by nephrotomy 39 died in the following year from progressive tuberculosis or other causes due to incomplete operation, and 24 were alive, of whom some were known to be living after the lapse of three, five, and even 10 years. All these patients, however, had lumbar fistulæ. Of 335 patients operated upon by nephrectomy 42 died within the year from diffuse tuberculosis and 295 others were living as follows: at the end of one year 33, from two to three years 41, at the end of five years four, at the end of six years seven, at the end of eight years two, and seven out of 105 had a fistula.

II. *Results in the different forms and clinical circumstances of the disease.*—Indications and contra-indications. (*a*) Of 10 patients operated upon for pain or hæmorrhage in the purely bacillary stage none died. The patients lived for a long time afterwards and preserved an actively working urinary apparatus. Intervention, then, having for its aim the removal of a quiet bacillary focus was undoubtedly legitimate. (*b*) In mixed infections the results were not so good. (*c*) Bilateral cases of lesion might be operated upon except when the other kidney showed very definite bacillary infection. A slight nephritis was no bar to either nephrotomy or nephrectomy. (*d*) As to the bladder the reflex pains of this organ often disappeared after operation. (*e*) The condition of the lungs and other organs and the age and sex of the patient have the same bearing upon these operations as upon any other.

III. *Results following upon different methods of operation.*—Choice of methods. (*a*) Nephrotomy should not be employed in the nodular or miliary form of tuberculosis. In the hydronephrotic form it should be always employed. So far it had been almost exclusively employed in the pyelonephrotic form, but, as a rule, only gave temporary results and even when most successful was followed by a fistula. (*b*) Primary nephrectomy was the operation of election; its mortality was only 21·79 per cent., whereas that of secondary nephrectomy was 30·76 per cent. The latter operation was, however, of considerable service. (*c*) With regard to the relative merits of the extra peritoneal and trans-peritoneal routes the former with a mortality of 21·2 was far preferable to the latter with a mortality of 34·04. (*d*) Partial nephrectomy should be altogether discarded.

The Remote Effects of Operative Treatment in Hypertrophy of the Prostate.

Professor A. VON FRISCH (Vienna) read a paper upon this subject. He said that of all the various operations for hypertrophy of the prostate only those which had for their object the complete removal of that portion of the prostate which prevented the free flow of urine offered any chance of lasting success. Such were subpubic and perineal prostatectomy, lateral prostatectomy, and Bottini's operation. The effects of all these were the more lasting in proportion as the passage was freed and remained free from cicatrisation. Operations done under the eye evidently answered best to these conditions, and such were the different prostatectomies. But they were always serious undertakings on account of the age and general feebleness of the patients in whom they were required. Bottini's operation was less dangerous, but not so free from risk as some would have them believe. Both classes of operation gave good and lasting results, even where the bladder was dilated and its muscular wall was apparently partly paralysed; a good result will follow if the obstruction be completely removed. However, no precise line of conduct could be laid down so as to assure success. The lasting effect of all these operations might be discounted by the formation of the new scar tissue or by a new hypertrophy of the gland.

Dr. F. LEGUEU (Paris) followed with a paper on the same subject. He said that there were three classes of operations for this condition: (1) operations on the testicles; (2) cystotomy; and (3) prostatectomy. 1. Of these, operations on the testicles sought to bring about atrophy of the prostate. In lieu of castration, which was considered by some to be too severe, division of the vas deferens or section of the vessels and nerves of the cord had been proposed. But all these were inferior in value to castration. As regards the remote results of double castration they were not so good as the early observations which did not take a long enough space of time into consideration would have had them believe. The prostate certainly shrunk but the patient improved to a far greater degree than could be accounted for by the diminution observed. The attacks of pain were less frequent and the contractility of the bladder improved so that the residual urine was less in quantity. But, after all, there was only amelioration and not permanent cure and comparing the results of castration with those of other methods it was doubtful whether the advantages of it were worth the sacrifice. 2. Cystotomy sought to make a meatus above the pubes. It doomed the patient, however, to incontinence of urine and the bladder could never empty itself completely. 3. Direct interference with the prostate appeared to be more and more the operation for the condition of hypertrophy. Bottini's operation could not yet be fairly judged from the point of remote results. Besides it was done in the dark and patients often relapsed owing to the new passage closing up again. Partial prostatectomy gave excellent

results in partial hypertrophy, but was of no use where the prostate was uniformly enlarged. Total prostatectomy could give very good results and apparently if undertaken by the perineal route at an early enough date before grave complications had set in seemed to be the operation of election for hypertrophy.

The Remote Effects of Structural Lesions in Urethral Stricture.

Mr. REGINALD HARRISON (London) read the first paper on this subject.[1] He summed up the conclusions to be drawn from his paper as follows. 1. That there was evidence to show that in peri-urethral strictures of the deep urethra the effects of divulsion as practised in Perrève's and Holt's operations might be limited to rupturing the dense stricture bands in the submucosa of the urethra, whilst the mucous membrane itself might escape any serious injury or laceration and was merely restored by stretching to its original dimensions. Here a permanent cure might result. On the other hand, where the mucous membrane was in itself the seat of stricture and formed part of the latter structurally, it was necessarily much torn or lacerated by the process of a sudden divulsion and the pathological condition consequently became assimilated with that of traumatisms of the urethra from external violence accidentally applied, which were followed by strictures of the most contractile and recurrent form. 2. That there was evidence to indicate that where the entire thickness of a stricture could be included within an incision of moderate dimensions made by an internal urethrotome the normal calibre of the urethra might be completely and permanently restored. Where this happened it might be concluded that all the fibres of contraction constituting the stricture were divided at the time of operation. And further that the converse was equally true. There was also evidence to show that the absence of recurrence under such circumstances was not necessarily dependent on the use of a bougie, though the latter was a precautionary measure which should invariably be advised. 3. That in the case of multiple strictures or strictures of the deep urethra of considerable dimensions either in their length or thickness treated by an internal incision of corresponding proportions, apart from other considerations, the tendency to reconstruction and recurrence with an additional amount of cicatricial material was frequent, the latter being probably due to the circumstances under which healing takes place in wounds of these dimensions so situated. 4. That lesions of the urethra demonstrated in various ways the poisonous effects that unprotected and confined urine was capable of exercising both on the body generally and on the tissues in constant contact with it, and that the liability to such effects was greatly diminished where drainage rendered these conditions of the urine impossible. 5. That in the case of recurring strictures previously treated by incision and in primary strictures of such length or extent as to require an internal section of a corresponding size, or as to which there might be doubt as to whether it would be safely possible so to include them, that for the purpose of the operation and its results such wounds should be made with due regard to other surgical principles than the one pertaining to the division of the contraction. 6. That there was direct evidence to show that the tendency to recontraction and recurrence of stricture after internal urethrotomy was largely diminished by the concurrent employment of systematic and thoroughly efficient urine-drainage, such as the combination of external urethrotomy, or perineal puncture, affords.

Dr. HERESCO (Bucharest) followed with a paper on the same subject. He said that they had to-day to consider the remote effects of internal urethrotomy, of external urethrotomy, and of resection of the urethra. Of these, internal urethrotomy was specially practised in cases of gonorrhœal stricture. Recent researches had shown that gonorrhœal stricture was really due to a sclerosis more or less complete and so simple section could not bring about a definite cure. Experiments upon animals agreed with clinical observations in man that if dilatation did not follow section of stricture cicatrisation was bound to follow. Dilatation was therefore the indispensable complement to internal urethrotomy. Internal urethrotomy, whether the incisions be superficial or deep, was bound to relapse. The date of this relapse varied according as dilatation was regularly kept up or not. He had known it occur five weeks after operation. In another patient it occurred at an interval of four months, in another at six months, and in others at one, two, and three years respectively. It had been known to occur after 30 years. External urethrotomy was practised in cases of so-called impermeable stricture, or where the stricture was complicated with fistulæ. Dilatation was indispensable, as in the case of internal urethrotomy. Relapse, however, was bound to occur, although Post, Van Buren, and Sayre have reported cases of cure lasting from 20 to 25 years after operation. Resection of the ureter was only feasible in cases of traumatic stricture. The essential condition for success was that there should be no suppuration. He would sum up his conclusions as follows. No cutting operation could bring about a lasting cure of stricture except resection of the urethra in certain conditions. Internal urethrotomy for gonorrheal stricture brought about no permanent result, it merely facilitated dilatation. Without dilatation the stricture would certainly relapse. The date of this relapse was uncertain, it might occur at any time from a few weeks to 12 years, and depended on the nature of the stricture and the regularity of the dilatation. External urethrotomy was open to the same objections as internal. But when the perineum was full of fistulæ and indurations external urethrotomy presented many advantages over the internal operation. Resection of the ureter under certain conditions brought about a permanent cure, but such conditions were rarely found. All cutting operations should be followed by persevering dilatation.

Dr. ALBARRAN (Paris) followed on the same subject. His paper may be shortly summed up as follows. In non-complicated inflammatory strictures the following methods were employed: electrolysis, dilatation, internal and external urethrotomy, resection, and autoplastic operations. Of these slow electrolysis gave better results than the rapid method, but there were not enough reported cases at present upon which to found a definite opinion as to remote results. Progressive dilatation gave good results, but had to be followed by the use of the dilating catheter. Internal urethrotomy could only be considered as the first step of dilatation. External urethrotomy was of use only in strictures of limited extent and must be followed by dilatation. Resection of the urethra in limited inflammatory strictures of the perineal region gave good results. If the stricture could be completely excised a permanent cure might be hoped for. Resection of the penile urethra might lead to curving of the penis. In inflammatory stricture complicated with fistulæ and tumours external urethrotomy should be performed. In traumatic stricture the operation of election was resection.

[1] The paper is published in full on p. 391.

IV.—OBSTETRICS AND GYNÆCOLOGY.

OBSTETRICS.

Etiology and Nature of Puerperal Septicæmia.

Dr. DOLÉRIS (Paris) read a paper on this subject. The genius of Pasteur, he said, had determined the microbic nature of puerperal septicæmia. They owed to him their notion of the existence, the virulence, and the contagiousness of puerperal pathogenic bacteria. The ordinary pathogenic germs found in puerperal septicæmia were the streptococcus, staphylococcus, gonococcus, and bacillus coli communis. Researches had shown that amongst the pathogenic organisms certain anaerobic forms, such as the bacillus putridus, must be included. A further conclusion was that some saprophytic anaerobic organisms could develop and act as true pathogenic germs, notably in cases of placental retention. The association of different species led more certainly to infection. The septicæmic condition caused death from toxic poisoning, which produced either nervous inhibition or intestinal paralysis. The staphylococcus might cause death by visceral metastases. The theory of autogenesis had recently received a new interpretation, according to which the pathogenic organisms existing in the pathological vaginal secretions should not be considered as saprophytic, and since autogenetic infection could not be distinguished from that due to saprophytic organisms this amounts to denying its existence.

Speaking on the same subject Drs. MENGE and KRÖNIG (Leipsic) understood puerperal fever as a malady of the puerperium in which pathogenic organisms infected the body as a whole. Fever might be entirely absent. They were unable to distinguish between the organisms which acted purely by their toxic properties and those which penetrated the tissues, nor could they distinguish with certainty between

a fever due to one or the other. The organisms causing puerperal fever were: streptococcus pyogenes puerperalis, staphylococcus, gonococcus, bacillus coli communis, bacillus diphtheriæ, diplococcus pneumoniæ, and certain imperfectly known organisms developing in the absence of oxygen, since they found them in puerperal lesions. The infection could be either autogenetic or heterogenetic. Gonorrhœal puerperal fever was to be regarded as due to the spread of an infectious process already existing in the body, not as an example of autogenesis. As the various organisms mentioned did not exist as saprophytes in the vaginal secretions of pregnant women an autogenetic infection by these organisms could not have as its seat of origin the vaginal secretion. Infection with anaerobic bacteria could not be denied since they were unable to distinguish with certainty between the anaerobic organisms causing puerperal fever and the anaerobic saprophytic organisms present in the vaginal secretion of pregnant women. Clinically they regarded as rare and of favourable prognosis an infection due to pathogenic organisms of saprophytic character derived from the skin of the external genitalia. The possibility of a puerperal infection being caused by organisms present as saprophytes in the cervical canal, the cavity of the uterus, or the tubes could be rejected since these cavities never contained such organisms. With regard to heterogenetic infection the number of germs present undoubtedly was a matter of importance. The difficulty in attempting to determine the varying degrees of virulence of different organisms was very great. They could only say that when an organism had lived a saprophytic existence for some time that its virulence was greatly diminished. Insufficient hæmostasis and marked lesions of the genital tract played an important part as predisposing factors. The primary seat of infection was most commonly the placental site or the endometrium; much less commonly the cervix, vagina, or perineum. The streptococcus had a great tendency to spread beyond the primary seat of infection either by the lymphatics or blood-vessels, while the staphylococcus often remained limited to the endometrium.

The Treatment of the Apparent Death of the Newly-born.

Dr. RIBEMONT-DESSAIGNES (Paris) read a paper on this subject. As a result, he said, of numerous causes which might occur during its birth the child might when born present the appearance of apparent death. Two varieties of asphyxia occurred, the blue and the white, while at times cases were met with in which both forms were present at the same time. Since in practice asphyxia was most commonly due to obstruction of the air passages by mucus or amniotic fluid charged with meconium it was necessary to (1) free the air passages, and (2) to facilitate the entrance of air into the lungs. As the mucus frequently only occupied the throat it was often sufficient to clear it out by means of the finger wrapped in a handkerchief. Cutaneous friction with or without alcohol, ether, brandy, eau de Cologne, warm baths, mustard baths, hot or cold baths, were often sufficient to excite respiratory movements. Rhythmical traction on the tongue might set up the respiratory reflex. If these procedures failed it was necessary to commence artificial respiration. Of the various methods available insufflation was the only one that fulfilled the two conditions necessary—viz., to clear the air passages and to facilitate the entrance of air. And, further, the insufflation should be instrumental. The apparatus employed should admit of aspiration of the foreign matters present, and it should not carry into the lungs a quantity of air greater than their capacity. To fulfil these conditions the instrument must be constructed upon anatomical principles. The insufflator formed upon the model introduced by him in 1877 fulfilled the necessary conditions. (1) Its introduction was easy owing to its curve and the shape of its end; (2) its curve assured its remaining in the air passages; (3) it prevented the reflux of air from the larynx; (4) it readily permitted of the aspiration of the fluid and mucus filling the bronchial canals; (5) it was easy to determine whether it was in its right position or not; and (6) the bulb attached permitted only of a quantity of air entering sufficient to distend the lungs without overdistending them.

Definition of a Still-birth.

Dr. F. H. CHAMPNEYS (London) in the next paper gave a definition of "still-birth" and divided the two stages of asphyxia into "apoplectic" and "pale, the worst cases being common when the head came last and therefore not being due to pressure on the head. Asphyxia he defined as an exaggeration of physiological "air-hunger" or "necessity for breathing," and after discussing its mode of production and the causes and consequences of premature inspiratory efforts he narrated some remarkable instances of survival of apparently dead children. The objects of artificial respiration he described as (1) removal of foreign bodies from the air-passages; (2) procuring the patency of the air-passages; (3) excitation of the circulation; and (4) ventilation of the lungs. With regard to ventilation of the lungs he considered only two methods of manipulation efficient—namely, that of Schultze and that of Silvester. The method of Silvester produced unnatural superior costal respiration and was the more powerful. The methods of Marshall Hall and Howard he considered useless for children.

Dr. SCHULTZE (Jena) also read a report on this subject. Asphyxia, he said, of newly-born children was the result of some interference with the placental circulation during the course of labour. It was therefore a species of suffocation. Treatment consisted in putting into action as soon as possible—and this was most important—pulmonary respiration. The venous condition of the blood was in a child born asphyxiated already beyond the normal; it no longer acted as a stimulus to the medulla. The spinal cord could, however, still react to other forms of irritation. One of the best of these was the application of cold. When the condition of asphyxia was still further marked the medulla no longer reacted. It was necessary then to restore its excitability. This result could best be obtained by establishing the pulmonary changes and by stimulating the circulation. By the insufflation of air it was possible to set up normal respiration but this did not improve the circulation. The best methods were those which acting upon the thoracic parietes provoked within the thorax regular variations in the atmospheric pressure. Such methods were those of Silvester, Marshall Hall, or his own method of swinging the infant. His rules for the treatment of such cases were as follows: 1. If the child was blue leave the cord uncut, clear out the mouth, and excite the cutaneous reflexes. If this prove insufficient cut the cord and plunge the infant alternately into cold and then hot water. 2. If the child be pale and flaccid cut the cord, clear out the mouth, and then proceed to artificial respiration. Commence by a forced movement of expiration. There was no better method of clearing the air passages. Repeat the movements of expiration and inspiration from eight to 10 times a minute and then place the child in a hot bath. The artificial respiration might then be repeated if necessary. If natural respiration be established but remain superficial plunge the child into cold water. A child born asphyxiated should not be considered as completely re-animated until it cried continuously and vigorously.

GYNÆCOLOGY.

The Treatment of Cancer of the Uterus.

Dr. RICHELOT (Paris) read a paper upon this subject. Total extirpation of the uterus by the vagina was, he said, a rational method, because it enabled them to deal completely with the disease and to get entirely beyond its limits. It was a relatively benign operation, the mortality of the reporter amounting to about 6 per cent. It was an efficacious operation. Ott had had cures extending over 12, 11, 10, eight, and six years; Landau after nine and a half, eight, seven, six, five, and four years; Ledentu and Pozzi after six years; Quénu, Terrier and Hartmann, and Routier after five years. The speaker had had cases alive 12½, 12, 10, nine, eight, six, four, and three years after operation. Making all allowances he was able to show at least 18 per 100 who had been definitely cured. The improvement that had occurred in technique had lead to a revival of the operation of abdominal hysterectomy. Equally to be condemned were those surgeons who advocated extensive operations of this kind both for cases of cancer where the disease had spread beyond the uterus and those who recommended them in cases where the disease was still limited to that organ, with the proviso that in either case such an operation enabled them either to remove all the affected tissue or to make sure of being well beyond the limits of the disease. No true comparison could be made between cancer of the breast and cancer of the uterus and it was impossible even by such an operation as abdominal hysterectomy to make sure of removing all the affected tissues. Cancer was primarily local and secondarily infective. A microbic origin for the disease was as yet unproved. Personally he was led to consider cancer as a trophic lesion independent of external causes. One proof amongst others

was heredity and another the relation between cancer and arthritic troubles. A hundred times he had seen cancer and arthritic troubles transmitted, coinciding or alternating in such a fashion as to convince him as to the pathological family in which they should be placed. And it was the mysterious action of the economy which determined the degree of cellular anarchy, modified its evolution, and settled its prognosis, which enabled them to see things as they really were. It was that which enabled them to combat the evil but at the same time traced out well-defined limits, which ensured their success or their failure. One knew how remarkably variable was the course of a cancer of the uterus. Another remarkable fact was the well-known better prognosis in the case of a cancer of the body of the uterus. In brief, it might be said that a cancer of the uterus passed through two periods, while it still remained limited to the uterus, and when it had passed beyond its limits, and that the duration of these two periods was influenced by some unknown condition, possibly some "morbid temperament." What, then, should be their aim? Undoubtedly to operate at a time when no cancerous cell had progressed beyond the limits of the uterus. If they succeeded in doing this and in removing all the morbid growth then they might well speak of a definite cure, and they might even neglect the predisposition of the organism to reproduce another cancer. The proper treatment of cancer at the present day was to anticipate its spread and not to attempt to overtake such spread once it had begun. And, indeed, the organism itself came to their assistance. Intervention was not always without avail even when it appeared to be a little late. Such cases were difficult to recognise. It was justifiable, however, to adopt the abdominal operation in the presence of a limited spread of the cancer to the vaginal wall, rendering a vaginal operation impossible, but not indicating any real diffusion of the cancer. The operation was also justifiable in the presence of a tumour of slow growth the course of which they had been able to follow for some time. In such cases he had adopted abdominal hysterectomy without regarding it as a sovereign remedy and duly recognising its limitations. He had endeavoured to show that vaginal hysterectomy was capable of obtaining definite cures and that abdominal hysterectomy was a useful resource in a small number of cases, but that applied to cancers which had already become diffused it was an imprudence, and to cancers still very limited an illusion. That was to say, he differed from those who saw in the first an operation always incomplete, merely palliative, and in the second, the only operation which removed all, the only operation which was logical and rational. He would say that that operation was truly curative which preceded the cancerous infiltration—that which pretended to pursue it was really merely palliative.

Dr. DMITRI DE OTT (St. Petersburg) came to the following conclusions on the same subject:—1. Surgical treatment was the only successful method of combating cancer of the uterus. 2. The peculiar functions and structure of the uterus required a special study of the cancers that attacked it. Conclusions drawn from cancer in other parts of the body were only applicable in certain special cases. 3. Total extirpation of the uterus should be practised in all cases of cancer of any part of the organ, since the procedure gave the greatest amount of success. Removal of the ovaries and appendages should only be practised under special conditions. Removal of the retro-peritoneal glands could only be carried out by the abdominal route. This method should not be practised as a rule since it was much more dangerous and the results were not sufficiently good. Total extirpation by the vagina was to be preferred to all other methods. Morcellement in the cases where the uterus was of large size or the case complicated by the presence of fibroids was a method of great value. In cases of pregnancy complicating cancer of the uterus vaginal extirpation should still be carried out. The operation could be practised up to the seventh month and after opening the *cul-de-sacs* and ligaturing the uterine arteries the size of the organ could be readily reduced by the removal of the ovum. If the pregnancy was still further advanced and the child viable the latter might be delivered by abdominal section and the uterus, if practicable, removed by the vagina. It was best not to close the peritoneal opening but to lightly plug it with iodoform gauze. The ultimate results of operation undertaken for cancer of the body were much better than those undertaken for cancer of the cervix. Total extirpation should be practised even in advanced cases, since it tended to alleviate the condition of the patient, and especially in view of the difficulty of making an exact diagnosis of the extent of the disease. The mortality of the operation should not exceed 2 per cent. and the proportion cured with no sign of recurrence after six years was 10 per cent., extirpation having been practised even in the most advanced cases.

Dr. THOMAS S. CULLEN (Baltimore) then briefly referred to the gradual improvement in the operation for carcinoma of the uterus, commencing with amputation of the cervix as practised by Schroeder and his contemporaries, abdominal hysterectomy as recommended by Freund, the catheterisation of the ureters as employed by Pawlick and Kelly, and the more radical operation consisting in the removal of the iliac glands as advocated by Ries, Rumpf, and Clark. He then pointed out the danger of implanting carcinomatous into healthy tissue, as was very likely to occur when the radical operation was performed. He described in detail the operation as performed by Werder of Pittsburgh. In this operation the chances of implanting carcinomatous tissue were reduced to a minimum. The various stages in the abdominal operation, where the cancer was limited to the cervix, he described as follows: (1) removal of broken-down carcinomatous cervical tissue, preferably a few days before; (2) insertion of ureteral bougies if desired; (3) ligation of the ovarian vessels and round ligaments; (4) freeing of the bladder from the uterus and broad ligaments; (5) opening of broad ligaments and freeing of the ureters to the points at which they enter the bladder; (6) ligation of the uterine vessels near their points of origin; (7) and (8) dissection of bladder free from vagina and rectum; (9) removal of pelvic lymph glands; (10) freeing of vaginal fornices; (11) closure of pelvic cavity by uniting the vesical peritoneum with that of the rectum, an assistant meanwhile making strong traction on the cervix from below; (12) closure of the abdomen; (13) ringing of the vaginal vault with a thermo-cautery or knife, thus freeing the uterus and its surrounding vaginal mucosa; and (14) application of a light gauze pack to the space left in the vaginal vault. Thus the uterus was freed on all sides, the vagina dissected loose from the bladder and rectum, and the pelvic and abdominal cavities closed before the operator came in contact with the carcinomatous cervix. Even then there was little or no danger of transplantation of carcinomatous tissue. The speaker then briefly analysed 176 cases of carcinoma of the uterus occurring in the Johns Hopkins Hospital during the last six years.

Cervical Metritis.

Dr. S. POZZI (Paris) read a paper introducing this subject. His conclusions were as follows:—1. Acute or chronic inflammation of the cervix could exist for a long time isolated and without invading the body of the uterus. 2. At times the acute lesions of the cervical mucous membranes readily invaded the mucous membrane of the body, and the chronic lesions of the cervical parenchyma of inflammatory origin (sclerotic or sclero-cystic degeneration, partial or total) in a short time produced some effect upon the nutrition and the anatomical condition of the body of the uterus. 3. The operation of trachelorrhaphy was inferior to biconical resection of the cervix and should be abandoned. 4. A large number of acute, subacute, or chronic inflammations of the cervical mucous membrane in nulliparæ were due to insufficiency of size of the external os uteri and the difficulty of drainage that resulted. The most important part of the treatment consisted in restoring by operation to a sufficient extent the patency of the external os.

Dr. DOEDERLEIN (Tübingen) followed, saying that at the present day the causes of the inflammatory diseases of the cervical canal and of the cavity of the body of the uterus were to be found in a microbic infection. Modern bacteriological researches had shown that the external os uteri formed a boundary between a lower part of the genital tract containing micro-organisms and an upper containing none. The alkaline cervical mucus proved destructive to organisms introduced from without and so formed a protection not only to the cervix but to the body of the uterus, the tubes, and the peritoneal cavity. Amongst pathogenic organisms the only two that played any important part in the production of cervical metritis were the gonococcus and the tubercle bacillus. Gonorrhœal infection of the cervix was very common, the means of defence of the cervix being unavailing against the gonococcus, but tuberculous infection limited to the part was very rare. Tuberculous, syphilitic, and diphtheritic lesions of the cervix were quite different from so-called cervical metritis. Tuberculosis

of the cervix played an important part in the production of cervical metritis. The mucous membrane of the cervical canal was disposed to hyperplasia, the formation of polypi, and to inflammatory induration or erosions. The mucous membrane of the vaginal portion was disposed to changes in the epithelium, that was to say, to papillary and follicular erosions. The etiology of cervical metritis demanded further study both from the bacteriological or clinical point of view.

Dr. MENDES DE LEON (Amsterdam), speaking on the same subject, said that the pathological lesions of the neck of the uterus, which were known as cervical metritis, were difficult to separate clinically from chronic inflammation of the body of the uterus and especially from chronic inflammation of the mucosa. One might distinguish two varieties, the form due to bacteria and that not due to bacteria. In view of the great difficulty in determining the etiology of the chronic form it was best to distinguish them by their clinical signs, and to speak of a catarrhal endometritis or of a pseudo-endometritis, the catarrhal form being characterised by the presence of leucocytes in the stroma, and the pseudo-endometritic form by an abundant glandular proliferation and augmentation of the stroma. It was only in the gonorrhœal and septic inflammations that one saw the inflammatory process penetrating into the substance of the uterus and so leading to a true metritis. In the etiology of non-infectious conditions of the endometrium hyperæmia of long duration played a most important part. With regard to the septic and specific inflammations of the uterus their origin was to be found in the presence of organisms of various kinds which had found their way into the uterus either during the puerperium or through some lesion the result of an operation, or even in the case of certain specific organisms through the intact mucous membrane. With regard to the question as to whether a cervical metritis could remain limited to the cervix or not there was some divergence of opinion. In 100 cases examined with Dr. Van Tussenbroek he found only nine cases of simple cervical catarrh. On the other hand, he found 55 cases of catarrh of the body, of which 39 were circumscribed and 16 combined with cervical catarrh. It was difficult to demonstrate or to exclude the presence of any affection of the body. In the absence of erosions and when there existed a more or less abundant mucous or purulent secretion it was almost certain that they had to do with a catarrh of the body. Athough as regards etiology, &c., the two conditions were to be considered separately, it was not so with the treatment. Here, since the mucous membrane of the body was usually also affected, the common form of treatment was curettage. Amputations of the cervix alone appeared irrational, since this could have no effect upon any accompanying condition of the body of the uterus. In conclusion, he might say that it was necessary neither to consider nor to treat cervical metritis as an isolated affection, since in the great majority of cases it was accompanied by a similar condition of the body of the uterus. The term "cervical metritis" should be replaced by that of "cervical endometritis," since the inflammation of the mucous membrane was rarely accompanied by any lesion of the deeper tissues.

V.—STATE AND MILITARY MEDICINE AND SURGERY.

MILITARY MEDICINE AND SURGERY.

Lesions Produced on Man by Projectiles of Reduced Calibre.

Dr. L. A. LAGARDE (New York) read a paper in which he referred to the early history of reduced calibre rifles, the experimental evidence upon animate and inanimate objects by the surgeons of the different Governments while contemplating a change of armaments, and the general conclusions based thereon. He noted the results of gunshot wounds by the projectile of the 7-millimetre Mauser rifle in the Santiago campaign; and from such data as the office of the Surgeon-General of the United States Army was able to furnish, he discussed the stopping power, explosive effects, bone lesions, and injuries to the viscera occurring in this campaign.

Surgeon-Major VINCENT, *professeur agrégé* at Val-de-Grâce, read a paper upon

The Etiology and Prophylaxis of Typhoid Fever in Armies in the Field.

Typhoid fever, he said, was a necessary companion of every war and was far more deadly than was the fire of the enemy. The causes which brought it about were the same as in time of peace, but during the progress of a campaign the influence of these causes was very much greater. The predisposing causes were the average age of the soldier; the time of year chosen for military operations—summer or autumn; imperfect feeding and the digestive troubles which resulted therefrom; the inevitable deficiencies as to hygienic conditions as regards both the soldier's body and his clothes; a hot climate, as is the case in colonial wars; the shutting up of troops in camps or besieged towns; a very prolonged war, and the demoralisation of an army when conquered. Overwork was also a most potent factor. The immediate cause was the ubiquitous bacillus typhosus. This bacillus was able to live in a latent condition in the digestive tract and thence under favourable conditions to multiply itself and give rise to the appearance of a spontaneous epidemic. The disease might be transmitted from one man to another, but the most frequent cause was water. Food coming from infected regions could also transmit the disease. Other methods of transmission were flies and dust from infected soil. The necessities of warfare made prophylaxis very difficult. At the beginning of the campaign every man, or at the very least every officer, should be briefly instructed in the principal rules for the prophylaxis of all infectious diseases and especially typhoid fever. During the period of concentration and even during active operations overwork should, as far as is compatible with the needs of war, be avoided. For a colonial war only men of not less than 25 years of age should be chosen. Food should be as good and as varied as possible. Personal cleanliness should be attended to and the hygiene of camps should be carefully looked after. Flies, if possible, should be kept away, and above all, if possible, only filtered or boiled water should be drunk and alcohol should be avoided. Anti-typhoid inoculation, according to the method of Wright, as a special method of prophylaxis did not appear so far to have given very definite results. Troops coming from infected garrisons should, if possible, not camp with others. Sick men should be persuaded to apply for relief at the earliest moment. Patients, if seriously ill, should be treated in a special hospital. Disinfection or sterilisation of everything that came from, or had been touched by, the patient should be carried out as far as possible. A camp should not occupy the same place for a long time, and if the fever spread the camp should be abandoned.

Dysentery.

Dr. ANTONY, professor at Val-de-Grâce, read a paper upon the Treatment of Dysentery in Armies in the Field. He said that as they were ignorant of the nature of the germs of the disease secondary causes were of very special importance, such as climatic conditions, atmospheric variations, fatigue, overwork, infection, and contagion. In time of war all these causes were at work simultaneously. War exposed an army to suffering and privation of every sort. The men had to undergo exposure often without any shelter and even the most prudent commander could not always avoid overworking his troops. The food of an army could be carefully attended to except under two conditions—viz., during a siege or a retreat, in both of which the troops were exposed to very cruel privations. A wise administration would always feed an army as plentifully as possible and whenever it could be done with fresh food. The regular rations should not, as a rule, be composed entirely of preserved food. All excess should be severely prohibited. The providing of good drinking water for the troops was one of the most difficult matters to carry out in the course of a campaign. Various methods of purification had been employed, but the best way, and the most certain where it could be done, was to boil the water. In hot countries where dysentery and malaria were particularly frequent and very serious, besides these precautions troops should, if possible, not be allowed to fight during the period of the year in which these maladies were specially prevalent, and the men might also be treated with quinine as a preventive method.

Surgeon-Major SIMONIN, *professeur agrégé* at Val-de-Grâce, read a paper upon the Etiology of Dysentery in Armies in the Field. Dysentery had, he said, from all time been the inseparable companion of armies in the field. The history of ancient and mediæval wars, as well as those even of the most recent times, showed that this disease was the most constant factor in the death-rate of troops wherever they were fighting. The disease was very fatal both in temperate climates and in hot countries. The pathological

agent of dysentery had not yet been absolutely discovered, but at the present time it seemed probable that the disease called "dysentery" represented a collection of pathological conditions. Some observers said that the cause of dysentery was a certain animal parasite—viz., an amœba. Other observers put it down to some particular kind of microbe. Other observers, again, considered that the disease was due to both the microbe and the amœba. Whatever be the cause, the general tendency of modern opinion was to consider that the active agent in the production of dysentery was something common to the human economy which acquired under certain circumstances a power of growth and special virulence. They could, therefore, say that the disease proceeded from ordinary causes which affected the organism and allowed an abnormal development of germs which in the ordinary way were inoffensive. In all infectious diseases the importance of secondary causes was great, but in the case of dysentery the secondary causes were of the very highest importance, and in the case of armies in the field these influences were so many in number that they must study them in some methodical fashion. First of all there was the influence of climate and of the different seasons of the year. Heat, for instance, tended to make dysentery the special malady of troops operating in tropical countries. The influence of variations of temperature, and in particular the sudden chilling of the body, played a considerable part in bringing about attacks of diarrhœa and dysentery. A very important cause of dysentery was the influence of food of bad quality and the prolonged use of bulky or indigestible food. Intemperance, whether in food or drink, and above all in a tropical climate, had been rightly said to be a cause of dysentery. Scarcity of food, on the other hand, was also capable of producing the same effect. The fatigue and overwork which were inseparable from warfare and the accumulation in the organism of fatigue-products diminished the resistance of the body and favoured the attack of the dysenteric germs. After a war had lasted a certain time a new factor arose—viz., pollution of the soil and to a certain extent of the air. This cause arose chiefly in camps and besieged towns mainly from the accumulation of various dirty liquids and waste matters and the bodies of men and animals. When dysentery had once made its appearance under the form of a frequent diarrhœa it spread very rapidly through the army, mainly by the influence of water and of soil and of the dust of places which had been definitely polluted by the dejections of the patients. In temperate climates dysentery was generally associated with typhoid fever and in tropical climates with malaria.

The Prophylaxis of Syphilis in the Army.

Surgeon-Major FERRIER, *professeur agrége* at Val-de-Grâce, and Dr. PANARA, the delegate of the Minister of War for Italy, read papers upon this subject. The chief means which they laid down as being effectual were (1) the giving of regimental instructions on the subject to the officers and non-commissioned officers by the medical officers, which instructions should then be handed on to the privates; and (2) the preparation of a little book for the privates containing the simple rules of hygiene. The moral level of soldiers should be raised in every possible way. M. FERRIER said that he was very pleased to see that in the French army fewer permissions were granted to soldiers to go to the theatre or to be out for one night, but that there was an increase in the number of permissions given to men to return to their homes for a certain period of time. Finally, he considered that the temperance campaign would do a great deal of good. Dr. PANARA considered that the chief method of prophylaxis must be treated as a question of public order and rules which affected only the barrack or the hospital could but treat the matter in a secondary way. He agreed with M. Ferrier as to the good which might be derived from the giving of regimental lectures, and he advised that a strict system of surveillance should be carried out in every regiment and barrack. Men should not be punished or reprimanded for applying for relief in cases of this complaint.

Extemporaneous Methods for the Purification of Water.

Surgeon-Major LAPASSET read a paper upon this subject. He pointed out that water was absolutely necessary for the soldier, and therefore in default of a good supply of drinking water it was necessary to make use of water which was more or less of a bad quality, and this had to be purified before use. The simplest method of purification was by boiling, but this method was almost impossible to carry out for an army in the field. Another method was filtration, and various filters, such as the Chamberland or the Berkefeld, gave good results. Carbon filters were dangerous to use because they got so quickly infected. Another method of purification was by means of chemicals such as permanganate of potassium. If possible, whatever be the method of purification employed, it should be under the control of an officer who should preferably be a medical officer. Any apparatus used should be a collective apparatus, and not one which was under the control of an individual.

Surgeon-Major SCHUCKING spoke on the same subject. The two chief methods of purification which he considered were filtration and purification by some chemical agent. For troops in the field, if they were in close connexion with the base, filters acted very well, but if the troops were far away from their base chemical agents were more easily employed, such, for instance, as the hyperchloride of lime.

Dr. VINCENT, *médecin de bataillon*, followed on the same subject, treating the subject with special reference to the purification of water for troops on the march. The best system, in his opinion, was that of chemical purification after the method employed by Lapeyrière. In default of this the water might be boiled.

Tropical Phagedæna.

Dr. LE DANTEC (Bordeaux), a first-class naval surgeon, read a paper upon this subject. He pointed out that in hot countries any wound of the skin rapidly passed into a state of ulceration, and that this ulceration exhibited the condition known as phagedæna, which was remarkable for its tendency to invade healthy tissues. Phagedæna appeared to be due to a bacillus which closely resembled that described in 1896 by Vincent as occurring in Madagascar. He himself had discovered this bacillus in the year 1884. The natural home of the bacillus appeared to be damp ground.

The Care of the Wounded in Naval Warfare.

Dr. FONTAN, a French naval *médecin en chef*, read a paper on this subject. They were met, he said, at the outset by the question whether the surgeon could really do his work during the progress of the fight. In France it was considered that the surgeon could not go among the wounded so as to bring them aid on the spot where they fell. He had to remain in the place which was appointed for the reception of the wounded. But could the wounded be taken to this place at every moment of the fight? Unfortunately no. It almost invariably happened that before the wounded could be moved they had to wait for the fire to slacken, and in the meantime they had to remain where they had fallen exposed to the risk of receiving a new wound without any care, and very possibly liable to die from loss of blood or from shock. These conditions could be ameliorated to some extent by instructions given to the combatants before the fight began, together with a packet of first-aid dressings. These things, together with a plentiful supply of tea with a slight admixture of alcohol, should be within the reach of all the fighting men. Supposing, however, that the time for moving the wounded had arrived, it was very difficult on board ship to move a wounded man to the appointed place where the surgeon was at work without harming him, and the best method of doing this was the use of the metal stretcher splint of Auffret. This moulded itself around the body of the wounded man, it kept him absolutely at rest, and it passed easily through very narrow passages. Once the wounded man had arrived at the place where the surgeon was stationed he was placed on the operating table and the first thing to be done was to render his wounds as aseptic as possible. This could be done by irrigation with boiled water, by the application of certain antiseptic solutions, and by dressings of antiseptic gauze. If the dressings were carefully packed in sealed parcels sterilisation in a stove was only indispensable in the case of instruments and of sutures. Bleeding must be stopped, and the loss of blood could be supplied by injections of boiled water to which a little salt had been added. Fractures should be put up in splints, and urgent operations must be undertaken, such as the ligature of arteries, the putting up of fractures, and the closing of cavities of the body which had been opened. A search for foreign bodies should always be postponed. All this treatment, however, should be simply provisional. The wounded should be landed as quickly as possible, or else transferred to a hospital ship. It was quite time that civilised nations should add to their fleets of war

a hospital ship flying the Red Cross, which could, after the battle, collect the wounded of its own nation.

Hospital Ships.

Dr. BUROT, a French naval *médecin en chef*, read a paper on the Use of Hospital Ships. He had served in the expedition to Madagascar in 1895 and came to the following conclusions:—1. Any ship destined for use as a hospital ship should be specially fitted for that purpose. 2. It was absolutely certain that in very malarious countries situated under the torrid zone it was much better when it was possible to treat the sick and wounded on a hospital ship rather than on land. 3. For a hospital ship to render the greatest amount of service it must be a hospital ship and nothing else. 4. In the case of a war lasting for a long time it would be as well to provide at the base of operations a floating hospital large enough to put up all the sick and wounded of the expeditionary column, and at the same time to organise a fleet of quick-steaming transports specially fitted up so as to carry the wounded back to their own country. 5. A floating hospital should be able to hold at least 500 patients. Ventilation should be carefully looked after, and if this could not be done by natural means electric fans should be employed. Distilled water alone should be used, but if the apparatus was not extensive enough to give a constant supply filtration might be employed instead. The question of ice-making on board ships had not yet been finally settled, but the apparatus which gave the best results was that which worked by compressed air. 6. The most serious inconvenience on board the hospital ship occurred in the presence of infection. It was almost impossible to obtain complete isolation on board a ship, and in view of the possible occurrence of infection it would be as well to fit out, at some little distance from the hospital ship, a smaller vessel which could serve as an isolation ward.

Plague.

Dr. SIMON and Professor YERSIN read a paper on Epidemics of Plague in the Far East. These observers were of opinion that plague did not arise in any place by itself, neither did it reappear, unless it was re-imported, after a lapse of 20 years. This fact had been established by the epidemics which occurred at Constantinople, Venice, Genoa, and Messina in 1347 when the plague was imported from Jaffa, by the epidemic in Marseilles in 1720, when it came from Syria, and by that at Kutch Mandvi in 1812, when it came from Mecca. The study of recent epidemics led them to the same conclusion. They laid down as first principles (1) that plague spread from a centre in the same way as a drop of oil, that was by circular extension; (2) that the plague could be carried from the primary centre to a distant point if there was direct and rapid communication between those points; and (3) that contamination of distant centres was exceptional except when they were connected with the principal centre by railways or shipping lines. In the Far East plague spread from endemic centres by means of trade routes. Its march, however, was very slow, and neighbouring regions, if separated from the centre of infection by natural barriers, escaped; thus, for instance, Yunnan in China had not affected Tonking. It was from Yunnan that the germs had gone out which were at present spreading throughout the whole world. It took 30 years, from 1850 to 1880, to attack Long-Tcheou and Pakhoi by following the course of the rivers and the various lines of communication. In 1893 English diplomacy procured the opening of the Canton river to trade. The plague started from Long-Tcheou, overran Canton and Hong-Kong, and in four years' time it was spread throughout the four quarters of the world. It was useless to discuss the origin of the plague of Bombay but it might profitably be considered how the plague passed out of India. The port of Kutch Mandvi would appear to be the point of departure. The sanitary police of Bombay and at Karachi did their work admirably, but, on the contrary, at Kutch Mandvi, where there were no Europeans, both entrance to, and exit from, the port were practically free. This port, however, was in constant relation by means of small sailing ships with Madagascar, Zanzibar, Mauritius, Jeddah, and the Persian Gulf. A cultivation of the plague bacillus which had been obtained by Yersin and Carré which killed 20 per cent. of rats that had been inoculated with it and which they called the bacillus C was next referred to. Perfect immunity was obtained in animals by inoculating with this bacillus after a period of 15 days, but experience of the method was still wanting to enable an opinion to be pronounced as to whether this immunity was lasting. Dr. Yersin had inoculated himself without any ill-effects except a slight rise in temperature.

Tetanus.

Dr. F. CALMETTE (Lille) read a paper upon the Prophylaxis of Tetanus in Hot Countries. He pointed out that tetanus was very frequent in the torrid zone, more especially on the West Coast of Africa, in Guiana, and in the Antipodes. Young children were especially affected by it, and in Indo-China many newly-born children died from it. The black races were the most easily affected, the white races took the second place, and the yellow races took the third. The infection of tetanus in hot countries arose almost always from the soiling of wounds by earth or by the dejection of animals. Tetanus in new-born children arose from an infection of the umbilical wound. The best measures of guarding against tetanus were as follows:—1. To spread throughout the colonies in hospitals, in ambulances, and in columns of troops on the march the use of anti-tetanic serum so as to prevent tetanus occurring in those whose wounds were infected either with dirt or with portions of clothing. In every case of gunshot-wound, after the first dressing had been applied, a preventive injection of 10 cubic centimetres of anti-tetanic serum should be given. 2. Throughout tropical colonies native women, both mothers and midwives, should be educated with regard to the elementary precautions necessary for women and their newly-born children. Lectures should be given in every colonial centre where there was a medical man at which simple instructions should be given with regard to the dressing of the umbilical cord, on the proper treatment of which the prevention of tetanus in newly-born children almost entirely depended.

Papers were also read by Dr. FIRKET (Liège) and Dr. CLARAC upon the Etiology and Prophylaxis of Bilious Hæmoglobinuric Fever in Hot Countries and by M. E. MARCHAUX upon the General Etiology and Prophylaxis of Hæmoglobinuric Affections.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT IPSWICH.

THE occasion of the meeting of the British Medical Association at Ipswich was utilised by the Irish Medical Schools' and Graduates' Association to hold their annual summer meeting at the Higher Grade School, Ipswich, on August 1st. In the absence of the President (Inspector-General Lloyd, M.D. St. And., R.N.) the chair was taken by Dr. H. Macnaughton Jones, ex-President. There was a large attendance of members, including Sir John W. Moore (Dublin), President of the Royal College of Physicians of Ireland, Professor W. H. Thompson (Belfast), Professor R. J. Anderson (Galway), Dr. W. J. Smyly (Dublin), and the provincial honorary secretary, Mr. James Stewart (Clifton). The Council reported the completion of the arrangements in reference to the Arnott Gold Medal which has been given by Mr. David Arnott in memory of his late father, Sir John Arnott, Bart., and which is to be awarded annually to such Irish medical graduates or diplomates as shall be decreed by the Council to have pre-eminently distinguished themselves by some act of heroism in civil, naval, or military life, or by some achievement in medicine, surgery, or medical research. The chairman, in referring to this generous gift, stated that Mr. David Arnott had most courteously complied with all the requests of the Council in reference to the legal details of the deed by which the medal had now been permanently endowed. He (the chairman) wished to emphasise the fact that those qualified for the distinction were not to be confined to members of their Association and that the medal might be awarded to any Irish medical graduate or diplomate whom their Council might adjudge worthy. The first award would probably be made before the next festival dinner. Sir John W. Moore, having remarked on the warm liberality and patriotism displayed by the son of the late

much esteemed Irishman, Sir John Arnott, in this matter and above all on the evidence which it afforded of the high estimation in which the donor held the medical profession generally, and especially the *alumni* of the Irish schools of medicine, concluded by moving: "That the heartiest thanks of the association be, and are hereby, accorded to Mr. David Arnott for his generous gift of the gold medal endowed by him in memory of his late father, Sir John Arnott, Bart." Dr. Dolan seconded the motion, which was carried with acclamation. The provincial honorary secretary having stated the views of the Council on the question of restriction of honorary appointments in certain English hospitals to the diplomates of two specially favoured colleges, and having given a *résumé* of what had already been done in the way of abolishing such out-of-date monopoly so antagonistic to the "open-door" spirit of the times, Dr. Douglas proposed, Dr. Esler seconded, and it was carried unanimously: "That this meeting hopes that the Council will as soon as possible proceed actively with their efforts to reduce the number of English public hospitals in which the Fellows (by examination) of Irish colleges are not now eligible for honorary appointments on the staff." It was announced that the Association had determined to entertain Field Marshal Lord Roberts on his return from South Africa at a special banquet to be held in London, the date to be probably in the last week of November. A vote of thanks to the chairman terminated the proceedings.

The collection made at the opening service at St. Mary-le-Tower was stated last week to be destined for the British Medical Benevolent Fund. We learn that this fund receives half the collection, the other half being given to the Royal Medical Benevolent College, Epsom.

On the evening of Wednesday, August 1st, Mr. W. A. Churchman, the Mayor of Ipswich, received the members of the British Medical Association at a garden fête held in the grounds of Christchurch House. This beautiful old Elizabethan mansion belongs to the town, but on the above evening the general public were excluded. The grounds were illuminated by Chinese lanterns and small oil lamps while the windows of the front of the house were outlined in the same manner. Music was provided by the band of the Norfolk Regiment and the evening being beautifully fine the fête was a great success. During the evening a firework display was carried out under the direction of Mr. Paul Aggio of Colchester. The set piece showed the words "Welcome to the British Medical Association," the letters appearing in changing colours. Altogether the entertainment was a great success.

On the afternoon of the same day a garden party was given by Mr. Felix Cobbold of The Lodge, Felixstowe. Some 300 guests were present. Music was provided by the band of the Brantham Works augmented by some players from the Ipswich Artillery Band. The magnificent conservatories and hothouses were seen at their best.

On Thursday, August 2nd, members were invited to a garden party given by Captain and Lady Beatrice Pretyman at Orwell Park, and in the morning Mr. J. S. Corder conducted a party over Christchurch mansion and the Ancient House, besides demonstrating sundry other of the antiquities of Ipswich, such as Wolsey's Gateway.

The annual dinner of the Association was held on the evening of Thursday in the Town-hall. In addition to the President and the other officers of the Association there were present the Mayor of Ipswich, the High Sheriff of Suffolk, Sir Charles Dalrymple, M.P., Professor Simon Flexner of New York, Professor Nicolaysen of Christiania, Professor John Berg of Stockholm, Professor Lenader of Upsala, Professor Thoma of Aix-la-Chapelle, and some 250 members. After the usual loyal toasts the High Sheriff of Suffolk proposed "The Navy, Army, and Imperial Forces." The substitution of the word "imperial" for the usual one of "reserve" was significant of the knitting together of the empire by recent events. The responses, however, were given in the usual manner. Surgeon-General J. B. Hamilton responded for the army, Inspector-General A. Turnbull, R.N., for the navy, and Lieutenant-Colonel Andrew Clark for the reserve forces. Other toasts were "The Mayor of Ipswich," proposed by Sir John Moore; "The British Medical Association," proposed by Sir Charles Dalrymple, M.P.; "The President," proposed by Dr. Pye-Smith; and "The Guests," proposed by Dr. Buzzard. During the evening a reception was held by the ladies of the East Anglian Branch in the Museum.

THIRD GENERAL MEETING.

The third general meeting was held in the Central Hall of the Higher Grade School on August 2nd.

The PRESIDENT called upon Mr. FREDERICK TREVES to deliver his address in Surgery. This address was published in THE LANCET of August 4th, p. 312. At the conclusion of the address, which was most cordially received, a vote of thanks was moved to Mr Treves by Mr. T. R. JESSOP (Leeds) and seconded by Dr. WARD COUSINS. Mr. TREVES briefly returned thanks.

Dr. ROBERTS THOMSON, the President of the Council, then rose to present to the meeting the list of the names of those who had been nominated by the Council that morning to serve on the committee to consider the reconstitution of the Association. These were:—for South Africa, Surgeon-General J. B. Hamilton; for the East Indies, Mr. James Cantlie; for Ireland, Sir John Moore; for Scotland, Dr. J. C. McVail; and for England, Dr. Roberts Thomson, Dr. Radcliffe Crocker, Mr. T. Jenner Verrall, Dr. R. Saundby, Dr. S. Woodcock, Dr. Ward Cousins, Mr. H. T. Butlin, and Mr. Andrew Clark.

Mr. Horsley's nominations were as follows:—For the West Indies, Dr. C. G. Gooding, late of Barbados; for Australasia, Mr. C. G. D. Morier of Adelaide; for Scotland, Dr. R. C. Buist of Dundee; for Ireland, Professor J. W. Byers; for Canada, Mr. Edmund Owen; for England, Dr. A. Cox of Gateshead, Dr. William Gordon of Exeter, Dr. C. H. Milburn, Dr. A. G. Bateman, Dr. A. B. Ritchie, Mr. J. S. Whitaker, and Mr. Victor Horsley.

Dr. BERNARD O'CONNOR said that in accordance with the rules observed in the appointment of a Royal Commission the Association ought to select a chairman of the committee. That being so he proposed Mr. Victor Horsley.—This was seconded by Dr. ALFRED COX, but the CHAIRMAN said that he must rule the motion out of order.—The nominations were accepted *nemine contradicente*.

Dr. SARAT K. MULLICK rose to move the following:

(1) The present system of filling professorial chairs in the medical colleges in India, by virtue of grade rank in the Indian (Military) Medical Service, is apparently prejudicial to the interest of medical education and sanitation, and is a sinister bar to the advancement of original research in India. This meeting is of opinion that some change is necessary, and hereby appoints a sub-committee to consider the matter and report to the Council such action as it may think it proper to take.

He remarked that in deference to representations which had been made to him he had modified the terms of his motion. He continued in a well-argued speech to contend that some inquiry ought to be made, as he did not consider that his statements should be taken on his word alone.

Colonel KENNETH MACLEOD, I.M.S., while sympathising with the mover of the resolution, opposed it on the ground that it really involved an inquiry into the whole system of the government of India. After a few words from Dr. CHOWRY-MUTHU it was eventually decided to refer the matter to the Standing Committee of the Parliamentary Bills Committee.

Mr. VICTOR HORSLEY had given notice that he would move—

That the Council be, and hereby is instructed to allot the sum of £300

for the travelling and hotel expenses of the provincial members of the committee mentioned in the foregoing motion.

This referred to the committee on the constitution.

Mr. Horsley's motion was seconded by Dr. WOODCOCK, but was finally altered so that no definite sum was mentioned, but it was agreed that provincial members should be allowed one guinea per diem for hotel expenses as well as their travelling expenses.

The meeting shortly afterwards adjourned.

FOURTH GENERAL MEETING.

The concluding general meeting was held on August 3rd in the Central Hall of the Higher Grade School at 2.30 P.M.

The PRESIDENT read a telegram which he had received from Osborne in reply to the message of sympathy with Her Majesty passed by the Association. He then called upon Dr. WILLIAM SMYLY to deliver his address in Obstetrics. The address, of which the subject was Maternal Mortality in Childbirth, will be found at p. 385.—A vote of thanks to Dr. Smyly was proposed by Professor BYERS and seconded by Dr. W. S. A. GRIFFITH.—Dr. SMYLY having replied, the PRESIDENT read out three resolutions which had been sent up from the sections. One from the section of Obstetrics dealt with the notification of puerperal fever. Two sent up from the section of State Medicine dealt with the subject of the housing of the working classes and with the use of food preservatives. These were unanimously referred to the Council.—The customary votes of thanks to the Mayor of Ipswich and others who had assisted the Association in various ways were then put and carried unanimously.—A vote of thanks to Dr. ELLISTON, the President, was proposed and carried by acclamation and the meeting terminated.

THE SECTIONS.

MEDICINE.

THURSDAY, AUGUST 2ND.

The Problems of Gastric Ulcer.

Dr. J. F. PAYNE (London) opened the discussion on this subject. He referred to the imperfection of their knowledge with regard to this affection. He had little doubt that it was becoming increasingly prevalent. In proof of this assertion he gave statistics of the number of cases of gastric and duodenal ulcer admitted into St. Thomas's Hospital in the six quinquennial periods from 1870 to 1899 and they were respectively 30, 38, 70, 103, 174, and in the last period —i.e., 1895-1899—216, or five times as many as they were 20 years ago. When allowance had been made for the fact that many cases were now sent in for operation that would probably not have been at the earlier period and also for other accidental causes of increase in the number of admissions, he still was convinced that these corresponded with an increase of the disease among the general population. Gastric ulcer shared in this respect with other digestive diseases. Thus among the continued fevers, enteric fever, a fever characterised mainly by a digestive lesion, had supplanted typhus fever, a fever of more general character, and there was a real increase in the number of cases of typhlitis or appendicitis. As to diagnosis, was it always complete and satisfactory? The principles upon which it was based had been long well known. The three cardinal symptoms were pain in the epigastrium of a peculiar character, vomiting or gastric irritability, and hæmatemesis or melæna. Age incidence was also important. Only one diagnostic sign had been added in the last 30 years—hyperacidity of the gastric juice. As to the peculiar pain he found it present in a decided minority of cases, and in some pain was not present at all. Vomiting was present in most cases. As to hæmatemesis, he had been surprised to find that out of 48 fatal cases it had occurred in only 14, while in non-fatal cases it had been present in 95 per cent. of cases under his own care and in 75 per cent. of all cases in the hospital. His explanation of this discrepancy was that many cases proved fatal by perforation, in which complication hæmorrhage was known to be uncommon, while non-fatal cases were often sent to hospital on account of that very symptom. In his opinion it was the most reliable of the above signs. Other causes of hæmatemesis were alcoholism and cirrhosis of the liver, aneurysm rarely, and direct injury or strain. In this connexion he mentioned three cases in which hæmorrhage appeared to have originated the ulcer. Hæmatemesis in men was most frequently due to cirrhosis of the liver, in women to gastric ulcer. He knew little practically about hyperacidity of the gastric fluid, as he had never been able to think that it was a justifiable proceeding to put a tube into a stomach which was the seat of ulceration. Dr. Payne then discussed the differential diagnosis between acute and chronic ulcers. Acute ulcers were those where the symptoms developed rapidly. In 48 necropsies six ulcers were found to be acute and 42 chronic. Of the cases examined 36 had had symptoms for a long time and 12 for a short time; thus six chronic ulcers had acute symptoms. As to sex incidence Fenwick estimated that the disease was present in 10 females to one male. Dr. Payne found the ratio in acute ulcer to be two to one and in chronic ulcer four and a half to one. He inquired if the classes had the same pathology or if a chronic ulcer were anything else than an acute ulcer grown older. Among suggested causes were digestion, embolism, congestion, poisonous substances, and bacteria. Digestion explained the persistence and chronicity of the ulcer, but they did not know what started the local necrosis. It was usually called a disease of the poorer classes. Had the statement any other origin than their greater relative numbers? As to mortality, more women died under the age of 30 years than women over 30 years, but if the percentage of deaths per person living at the same age was taken more deaths were found at the older periods in both sexes. Post mortem an occluded vessel was often found in the middle of the ulcer. Dr. Payne thought that this proved nothing more than that the hæmorrhage had been arrested by natural means and not that the apparent thrombosis was the cause of the disease. The main principle of treatment was to give rest to the stomach. Rectal feeding enabled this to be done. It was a doubtful point as to whether the rectum absorbed much food. He thought peptonised food the most likely to be absorbed. He always allowed a little warm water to be given by the mouth, but not for the first 24 hours after hæmorrhage. The danger of long-continued rectal feeding was that syncope sometimes came on. He thought that it might be continued safely for 14 days if water by the mouth was allowed and for seven if water was withheld. During the treatment acetone sometimes appeared in the urine; this fact, he thought, proved nothing but starvation and he thought practical starvation was also the cause of the appearance of the same substance in diabetes and chronic alcoholism. In conclusion he submitted the following problems for discussion. Was the disease increasing? Was its diagnosis accurate enough? Was the acute form essentially different from the chronic? Was its original cause known? Was the hyperacidity always present and were they justified in trying to ascertain this? Were the upper classes as much affected as the lower? Should water by the mouth be allowed during rectal feeding?

Dr. S. H. HABERSHON (London) showed two diagrams compiled from cases under the care of the late Dr. S. O. Habershon. Only the cases of patients who had had hæmatemesis or those in which the presence of ulceration had been proved by necropsy were included. They were corrected to the absolute liability of all persons living at the same age and showed that the liability of females to the disease increased rapidly up to the age of 30 years, went down slowly up to 50 years of age, and then fell rapidly to the age of 60 years, while that of males increased steadily from birth to the end of life. Dr. Habershon thought that these showed that there was still some unexplained determining cause in young females. Dr. S. O. Habershon had said that he never felt sure of the diagnosis of gastric ulcer unless hæmorrhage had been present. Difficulties of diagnosis were (1) early cases, (2) neurotic cases with much hyperæsthesia, and (3) those very rare ones in which food relieved the pain. The presence of dilatation of the organ was an assistance to diagnosis in some cases, especially in men and when the ulcer was near the pyloric end. He considered it unjustifiable to pass a stomach tube in these conditions.

Dr. W. GORDON (Exeter) said that no one had ever seen a gastric ulcer in the living body till a few years ago. He had obtained a recent specimen eight or nine years ago which, when examined microscopically, showed a digested edge, next to that an area filled with leucocytes, and deeper still a layer of cells stuffed with cocci. He reviewed the possible causes of the disease—embolism, thrombosis, submucous hæmorrhage, trophic lesion, poisoning in food, mechanical pressure as from tight-lacing, injury to the mucous membrane, and micro-organisms. He considered the last-named to be the most probable and asked that in every case

where a gastric ulcer was excised it should be preserved for the most careful bacteriological and microscopical examination.

Dr. W. CALWELL (Belfast) referred to preventive treatment.

Miss JULIA COCK (London) related two cases which had presented almost all the symptoms of gastric ulcer. The first patient had had severe hæmatemesis and vomiting and subsequently signs pointing to subphrenic abscess. She died from pneumonia and no signs of any lesions whatever could be found in the digestive tract. The second patient had had hæmatemesis and signs of perforation of the stomach. A laparotomy was done and no disease or perforation was found. Eight years after, owing to the persistence of similar symptoms, a second operation was performed. The stomach was found to be healthy but there were chronic peritonitis and many adhesions to the stomach. The peritonitis was probably a relic of the first operation.

Dr. NEWTON PITT (London) considered that hæmatemesis was more often a symptom of other diseases than of gastric ulcer. As the cases of this disease became more frequent in males up to the end of life so he believed would those among females if all those were excluded in which the diagnosis was based on the single symptom of hæmatemesis. He stated that the ulcers found in the stomach in the post-mortem room were nearly always in old people. He had made two necropsies of persons who died from hæmatemesis and had found no ulceration, and, in fact, no cause whatever for hæmorrhage. He thought that it would be as well in the future to call such cases simply cases of hæmatemesis and not gastric ulcer. They were familiar with the engorged state of the gastric mucous membrane produced by the administration shortly before death of ammonia, ether, and brandy and possibly partly by paulo-ante-mortem digestion. Might they not have similar conditions in enfeebled states of the body? Some drugs—i.e., opium—were undoubtedly secreted into the stomach after absorption causing engorgement of the vessels. Might not poisons produced in the intestine by constipation act in the same way and cause hæmorrhage as toluendiamine would do?

Mr. STUART LOW (London) thought that ulceration might be produced by loss of the normal gastric mucus.

Dr. PYE-SMITH (London) drew attention to the great discrepancy between the results afforded by the clinical and the pathological investigation of causes of gastric ulcer as to its age and sex incidence. From clinical evidence they should assert that the greater number of cases were among young women, from post-mortem room records among elderly men. This convinced him that there was much to be learnt as to the pathology of the disease and he hoped that all ulcers excised during life might be examined. With regard to the microbic theory he could only say that "confidence is a plant of slow growth in an aged bosom." While agreeing that arterial embolism was not a likely cause he thought thrombosis of veins a much more probable one. He considered the acute perforating ulcer, as described by Rokitansky, Cruvelhier, and others, very different from the ordinary cases. As to the cases where hæmatemesis was present without ulceration they had epistaxis occurring in young men, hæmaturia in both young men and young women, and why not hæmatemesis without visible lesion? He did not keep up exclusive rectal feeding for more than 24 hours.

Dr. R. SAUNDBY (Birmingham) did not like the popular view of gastric ulcer. He agreed as to the great difficulty of diagnosis, but pointed out that if Dr. Newton Pitt's views were correct they could not diagnose gastric ulcer at all. He never made a definite diagnosis of the disease unless many symptoms were present at once. If diagnosis were so difficult how much more so must be any decision as to treatment. He did not employ rectal feeding unless there was hæmorrhage and then only for from 24 to 48 hours, which was not what was usually termed exclusive rectal feeding at all, and then he gave small doses of the sulphate of magnesium and iron.

Dr. F. M. POPE (Leicester) said that in addition to allowing patients a small amount of water he gave five grains of resorcin in an ounce of distilled water three or four times a day. Whether in that dose it did or did not act as an antiseptic it gave relief to the pain.

Dr. PAYNE, in reply, said that his experience as to the difficulty of diagnosis had been borne out by the discussion. He had seen one case which to some extent supported the bacterial theory. In a post-mortem examination of a stomach two ulcers were found, one recent, the other chronic, which suggested to his mind the possibility that the former had been caused by direct infection from the latter.

Intermittent Pulse.

Professor CUSHNY (Ann Arbor, Michigan) read a paper on this subject. He said that the classification of the varieties of intermittent pulse at present employed was not in accordance with cardiac physiology. He therefore was about to propose a new method. He showed a large number of diagrams and of sphygmographic tracings. Intermissions of the pulse were of several kinds. They might have an auricular contraction without a ventricular; here the ventricle was at fault. The auricular contraction might be delayed; here the auricle was at fault. In the former of these the intermission usually had double the time of a pulse interval; in the latter it might be of any length. In a third variety the ventricle contracted too soon owing to extreme irritability and the subsequent pause was consequently longer than normal. In a fourth the auricle contracted too soon (auricular hyper-irritability). In the third form the pulse was double the pulse interval; in the fourth less than a double pulse interval. In both if the pause equalled two pulse intervals the fault lay with the ventricle and it was less than that with the auricle. In the third and fourth forms the first sound was audible if the heart was listened to. In the first and second forms no heart sound was heard. Professor Cushny explained and illustrated these views by means of his diagrams and sphygmograms and said, in conclusion, that assistance in treatment might result from the general acceptance of his conclusions, as they might expect cardiac stimulants to do good in the first and second forms due to retardation of systole, while drugs like aconite, having a restraining influence, would be more likely to be useful in the third and fourth forms.

Dr. J. BARR (Liverpool) could not accept the conclusions. The auricle was extremely irritable and could be excited to contraction for several hours after death. He did not think that it ever failed to contract and intermissions of the pulse could not be tabulated in that way. He thought that the times of the cardiac systole and diastole were always varying. Many intermissions of the pulse did not correspond to intermissions of the heart. Full contraction of the right side might coincide with imperfect contraction of the left and *vice versâ*. In some cases of fatty heart he believed that the right heart hardly contracted at all, the preliminary circulation being carried on by the aspiratory movements of the thorax and the *vis à tergo* from the systemic circulation.

Professor CUSHNY replied. He thought that the auricle could fail and doubted if independent contraction of the right and left sides of the heart did not occur. Irregularity might be due either to muscular failure or to nervous influence. The latter had been shown in animals after the administration of pilocarpine.

Professor C. R. MARSHALL (Cambridge) gave a short demonstration of Different Forms of Sphygmographs, such as Fick's and Jacquet's, which had a time-marker. The former was more complicated but eliminated error due to inertia of the lever. He also showed a recent form of Sphygmomanometer.

SURGERY.

WEDNESDAY, AUGUST 1ST.

Pyloroplasty.

Mr. L. A. BIDWELL (London) read the notes of four cases of Pyloric Obstruction in which he had performed Pyloroplasty. In one of them a "tumour" was found which was thought to be malignant and so a gastro-enterostomy was performed, but two years later, as the symptoms returned, a pyloroplasty was done and the "tumour" had disappeared. In all the cases recovery followed. He considered that pyloroplasty was the best treatment for non-malignant stenosis of the pylorus. He thought that the operation was useful even when the ulcer was not close to the pylorus. He employed a modification of Halstead's "square suture."

Professor BERG (Stockholm) did not consider pyloroplasty a satisfactory operation, although in 1896 he had published eight successful cases. He found that the stenosis returned after two or three years and therefore he preferred to perform gastro-enterostomy, and of the eight cases mentioned four had required the performance of this operation on account of recurrence.

Dr. C. H. KILNER (Bury St. Edmunds) had operated by

pyloroplasty for stenosis caused by some acid which had been swallowed. Unfortunately, the operation had been left too late, for the patient died from exhaustion although the wound of the pylorus had healed.

Mr. T. H. MORSE (Norwich) wished to know about the suitability of the operation for duodenal ulcer. He had performed it in one case for ulcer of the duodenum but without success.

Mr. BIDWELL, in reply, mentioned that he had found recurrence occur after gastro-enterostomy and therefore had employed pyloroplasty.

Cholecystocolostomy.

Mr. H. BETHAM ROBINSON (London) read the notes of a case in which he had performed this operation. The patient was a man, 33 years of age, who had had syphilis 10 years previously. Four years before he came under observation he had sudden severe epigastric pain and vomiting which recurred. A fortnight later jaundice came on with severe itching. The liver was enlarged and there was a rounded swelling below the liver edge. The paroxysms of pain became worse. An incision in the right semilunar line exposed the gall-bladder, which was much distended, and a hardness was felt in the gastro-hepatic omentum and in the head of the pancreas. This was thought to be malignant and it was decided to connect the gall-bladder with the bowel, but the duodenum could not be brought into contact with the gall-bladder so a junction was effected with the transverse colon. No stone was found in the gall-bladder. The jaundice and itching were rapidly relieved. Some iodide of potassium was then administered and the hardness at the head of the pancreas gradually disappeared, so it was probably gummatous in nature.

Non-malignant Stricture of the Rectum.

Mr. F. C. WALLIS (London) commenced his paper upon this subject by remarking that it was usually taught that syphilis was the common cause of non-malignant stricture of the rectum. He considered that septic ulceration was the real cause. This septic condition might be due to operations for hæmorrhoids or to injury in protracted labour. In many of the cases there was not the slightest history or sign of syphilis. In these cases the routine treatment by bougies was perfectly useless and Mr. Wallis described two cases in which the stricture was completely excised, in one with and in the other without a preliminary colotomy. In both the cases the peritoneal cavity was freely opened. He preferred the previous performance of colotomy, as it lessened the chance of sepsis of the peritoneum. The result in the two cases mentioned was perfect. In many of the cases a multiple synovitis was noticed.

Mr. FREDERICK TREVES (London) considered that many of these cases of non-malignant stricture of the rectum were really congenital in origin. The ordinary treatment was very unsatisfactory and he thought that Mr. Wallis's method was a distinct advance.

Mr. STANLEY BOYD agreed that some of these strictures were congenital in origin. One explanation of the frequency of non-malignant stricture in women was that the bowel was affected by discharges from the vagina.

Mr. R. J. GODLEE (London) asked Mr. Wallis if he had mentioned pelvic peritonitis as a cause. He suggested the ventral position as better for the operative treatment of these cases than the lithotomy position.

Mr. WALLIS, in reply, acknowledged that he had omitted pelvic peritonitis as a cause, but he had intended to confine his paper to strictures following on ulceration.

Oöphorectomy in Cancer of the Breast.

Mr. STANLEY BOYD (London) described the suggestion of this operation in 1896 by Beatson who relied on a theoretical analogy between the rapid multiplication of the gland-cells in lactation and in malignant disease. Whatever the value of the theory Mr. Boyd showed the striking result of the operation in certain cases. He provided a table detailing all the cases recorded up to date. These were divided into two classes; in the first were put those cases in which the beneficial effect of the oöphorectomy seemed clear and considerable; this contained 17 cases. In the other class were put the cases in which little or no effect was produced or in which the result was doubtful; these were 21 in number. In many of the cases thyroid extract was administered, but it was very doubtful if this had any beneficial effect. The best results seemed to be attained when the patient was over 40 years of age but before the occurrence of the menopause. The more slowly-growing cases were the most likely to be benefited. In some cases improvement occurred within a week. It was desirable in all cases to treat the growth directly by excision, reserving the oöphorectomy for recurrences.

Dr. G. E. HERMAN (London) completed the notes of two cases operated on by him which were included in the series of cases collected by Mr. Boyd.

The late hour precluded any discussion on this important paper.

OBSTETRICS AND GYNÆCOLOGY.

WEDNESDAY, AUGUST 1ST.

Cephalotripsy of the After-coming Head.

Mr. J. H. TARGETT (London) read a paper on this subject founded on a case in which this plan was adopted. He premised that the operation was hardly referred to in ordinary text-books on midwifery and that therefore no details of the procedure were available. The occasions on which such an operation might be required were of course very rare, and even in the case which formed the subject of the paper he thought there was no doubt that Cæsarean section would have been the better method of treatment. The case was that of a rickety dwarf, aged 29 years, unmarried. She was near the end of the ninth month, and as she declined to have Cæsarean section performed it was decided to induce labour at once. This was done by hydrostatic bags, after which a leg was brought down. Delay then took place, and after some hours it was decided to extract. The trunk was delivered but the head remained in a position of flexion above the contracted brim. As no impression could be made upon it, and as pulsation in the cord had ceased, craniotomy was performed. The suboccipital region was chosen as being the most accessible. On applying the cephalotribe the lower blade came into apposition with the face of the child, but the upper blade could not be passed over the occiput owing to lateral contraction of the pelvis and incomplete dilatation of the lower segment of the uterus. The result was that the end of the blade repeatedly caught in the edge of the suboccipital perforation. This led Mr. Targett to pass the blade into the skull through this aperture and thus crush the base in its antero-posterior diameter. The plan answered admirably. The patient made a good recovery. The points on which Mr. Targett laid stress were: (1) What is the best site for perforation of the after-coming head? and (2) when crushing is necessary how should the cephalotribe be applied? He also raised the question of the supposed advantages of version before craniotomy. As to the first point he recommended the suboccipital region. The application of the cephalotribe was, he thought, best effected in the way which he had described in his case, because subsequent experiments which he had made had shown him that the best grip was obtained by inserting one blade into a suboccipital perforation, while the opposite blade was applied over the face. Dr. A. Donald of Manchester had recommended some years ago that version should be performed before doing craniotomy, and he (Mr. Targett) could testify to the fact that under these circumstances the delivery of the after-coming head presented no difficulties. The converse line of practice—viz., version after cephalotripsy—was, he imagined, very rarely adopted; but he had had occasion to carry it out in a recent case. Internal version in this case presented no special difficulties, but there was some trouble in bringing down the breech. After this, however, the rest of the delivery was surprisingly easy because the arms were completely extended by the side of the crushed head, and the mass so formed was less in bulk than the breach or the thorax. The patient did well.

The PRESIDENT (Dr. W. S. A. GRIFFITH) said that in the case of a dead child craniotomy was, in his opinion, preferable to forceps extraction in cases of contracted pelvis. But he had had such good results from Cæsarean section that in the case of living children he would be very loth to advise craniotomy.

Dr. C. E. PUERSLOW (Birmingham) had in one case delivered by version when attempts to extract after perforation had failed, and he agreed with Dr. Griffith that this plan had advantages in some cases. When he had to perform craniotomy on the after-coming head he preferred perforation through the mouth to that behind the ear.

Mr. TARGETT replied.

Mdlle. CATHARINE VAN TUSSENBROEK (Amsterdam) read a short paper on Observations on Human Placentation in its Second Stage, illustrated by diagrams.

Dr. M. BEVERLEY (Norwich) and Dr. BERRY HART (Edinburgh) made some observations on the subject and congratulated Mdlle. van Tussenbroek on her excellent paper.

STATE MEDICINE.

WEDNESDAY, AUGUST 1ST.

Dr. DREW HARRIS (St. Helens) read a paper on

The Municipal Sterilisation of Milk: An Account of the Installation and Working of the System at St. Helens.

This paper was illustrated by lantern slides. The system was described in detail and results were given showing some improvement in the mortality of the children thus fed. The cost of sterilising the day's supply of milk was twopence, and the cost of installation and current expenses came to about £500, less £187 derived from the sale of the milk.

Dr. Harris's paper was discussed by Dr. J. C. THRESH (Chelmsford) and Dr. H. PECK (Chesterfield). The latter held that the proper way to begin the crusade was by a rigorous public control of the dairy farms.

Professor R. W. BOYCE (Liverpool) being absent, Dr. GRÜNBAUM read for him a paper upon the Construction of Sanatoria for Phthisis. Several continental institutions were described and illustrated by lantern slides, as was one in course of construction near Liverpool.

Dr. A. C. HOUSTON (London) read a paper bearing the title—

Can Modern Systems of Sewage Treatment be Depended upon to Remove the Bacillus Typhosus and Allied Organisms?

He showed a large number of lantern slides in illustration of his paper and confined his remarks to bacterial filters, because septic tanks in his judgment were no better from the epidemiological point of view than modified cesspools. In discussing the question of the possibility of the mechanical separation of micro-organisms in bacterial beds Dr. Houston gave good grounds for accepting his final conclusion—namely, that having regard to permanency of action and to what was feasible in practice it might be stated in general terms and with comparative safety that the mechanical separation of the micro-organisms in sewage by the use of bacterial beds was virtually impossible. In considering the possibility of the biological processes at work in the filter-beds proving inimical to pathogenic germs Dr. Houston pointed out that it was difficult, if not almost impossible, to obtain direct evidence on this important point because the mathematical chances of isolating the typhoid bacillus from ordinary sewage were so remote as to be almost infinitesimal. Consequently it was necessary to seek for indirect evidence, such as might, for example, be afforded by the enumeration of certain species of microbes in the crude sewage, and then to ascertain the fate of these same germs during the biological treatment of the sewage. Dr. Houston next gave elaborate tables proving that in the Crossness experiments bacillus coli and bacillus enteritidis sporogenes passed through the bacterial beds in practically undiminished numbers. Another microbe passing through the beds in unaltered numbers was the "sewage proteus," some strains of which were virulent to guinea-pigs. Again on occasion Dr. Houston had found bacillus pyocaneus even in so minute a quantity as $\frac{1}{1000}$ cubic centimetre of an effluent. Lastly, the subcutaneous injection of from 1 to 3 cubic centimetres of sewage effluents into guinea-pigs almost invariably produced a rapidly fatal result, but sometimes the animals apparently recovered but eventually died after the lapse of some weeks from pseudo-tuberculosis. Speaking of the deposit accumulating on the material in bacterial beds Dr. Houston showed that besides the tetanus bacillus "acid fast" bacteria were present in abundance some of which could not with certainty be distinguished morphologically from the tubercle bacillus. In one single instance he succeeded in producing tuberculosis in a guinea-pig inoculated with the deposit from a bacterial bed. Dr. Houston inferred from this that even if some of the "acid fast" bacteria collecting in the coke-beds were those of the tubercle bacillus they had for the most part lost their infective power; nevertheless, the single positive experiment recorded tended to destroy the belief that none of the bacteria in question were those of tubercle or that being tubercle they had all lost their infective power. Dr. Houston next dealt at some length with the experiments of Andrewes and Laws on the vitality of bacillus typhosus in sewage and with Klein's researches in a similar direction. The lesson Dr. Houston sought to teach from the results of these experiments was that the element of "time" or "delay" was an all-important factor and that it was doubtful if any bacterial process in practical operation at the present time "treated" or "detained" the sewage for a sufficiently long period to allow of the complete destruction of all the pathogenic germs by bacterial agencies. Dr. Houston frankly admitted that demonstration of bacillus enteritidis sporogenes and bacillus coli in sewage effluents did not of necessity prove that the typhoid bacillus and Koch's vibrio would likewise be unaffected by the biological processes at work in bacterial beds, but he urged somewhat strongly that his results showed that until positive evidence to the contrary were forthcoming it would be wise to regard the effluents from bacterial beds as no more safe in their possible relation to disease than crude sewage. In conclusion, Dr. Houston pointed out that if streptococci, as a class, were to be thought of as derived from the intestinal evacuations of animals as delicate germs which readily lost their vitality and died, and as not unlikely to be, moreover, pathogenic, the fact that he had repeatedly isolated them from $\frac{1}{1000}$ cubic centimetre or less of the effluents from bacterial beds could not be regarded as devoid of significance. Indeed, in Dr. Houston's judgment it clearly carried the conviction that if these germs of feeble vitality passed through the filters in practically unaltered numbers it was extremely unlikely that pathogenic germs such as bacillus typhosus and the cholera vibrio which were seemingly most resistant, would be destroyed altogether during the biological processes at work in the filter beds.

Dr. A. S. F. GRÜNBAUM (Liverpool) said that the bacillus enteritidis sporogenes was almost universal. He did not think that the bacillus coli was very resistant, for it was specially susceptible to light and dryness. The great difficulty at present lay in the fact that there were no means of isolating the bacillus typhosus. Recently a cultivation medium had been published by Dr. A. T. MacConkey in THE LANCET[1]—a bile-salt agar with lactose which was inimical to nearly all bacteria but bacillus coli and bacillus typhosus. They had found that the bacillus typhosus was not present in the effluent from three feet of sand. The result of these observations pointed to the conclusion that all typhoid excreta should be sterilised. Effluents from bacterial beds must not go anywhere where they would be likely to infect drinking-water, or food, such as oysters.

Dr. COOPER PATTIN (Norwich) had endeavoured for a long time in Norwich to get excreta mixed with paraffin and burnt. As Dr. Grünbaum pointed out, the infection could not be kept out of the sewers either in early or in ambulatory enteric fever cases. Filter-beds did not clear sewage of pathogenic bacteria. He asked Dr. Houston to what extent and for what period of time must sewage be passed through soil to rid it of infection. It was a question whether the bacilli should not be subjected to treatment before filtration.

Dr. J. GROVES (Carisbrooke) said that the Local Government Board had discouraged the efforts of small authorities to establish bacterial treatment of sewage. The microbic states of effluents were most unsatisfactory. Many medical officers had been convinced that there had been an actual increase in the bacteria of the effluent from filtration beds.

Dr. J. C. THRESH (Chelmsford) said that at Whitstable, where oysters were cultivated, the question arose whether it would be safe to discharge effluents. On experimenting he found more bacteria in the effluent than in original sewage. The Local Government Board had pressed them to enlarge their filter-beds. He urged his local committee to write asking for proof that bacillus typhosus and other pathogenic germs would thereby be eliminated. The Local Government Board admitted that there was no such proof. The danger was the greater inasmuch as the effluent contained nothing offensive to the eye or the nose.

Dr. HOUSTON, in reply, said that he was pleased to find that Dr. Grünbaum did not regard the bacillus coli as a resistant organism. The general view was that the bacillus coli was more resistant than the bacillus typhosus. The new medium of Dr. MacConkey was doubtless most important. The use

[1] THE LANCET, July 7th, 1900, p. 20.

of sand as a material for efficient filtration could not be carried out in practice. Dr. Pattin's question as to what was the most efficient method of sewage sterilisation was difficult to answer. It might be said, however, that subsequent earth filtration would greatly lessen, if not remove, the infection.

THURSDAY, AUGUST 2ND.

The Provision of Cottages in Rural Districts and its Bearing upon Public Health.

A discussion was opened upon this subject by Dr. J. S. TEW, medical officer of health of the West Kent Combined Sanitary District. This subject, he said, was inseparably connected with the larger question of the housing of the working-classes throughout the country and was of paramount importance. He did not think he was claiming too much in saying that to no one was the actual condition of life among the working-classes better known than to members of their own profession and particularly to those of them who had been engaged in general practice and who had therefore seen all phases of cottagers' lives. The President of that Association last year, in his comprehensive and able address, spoke as follows: "The great hindrance to the progress of preventive medicine which we have to overcome is the overcrowded and insanitary condition of the dwellings of the working-classes. This is the field on which the great battle will have to be fought out. Our warfare will not be directly with microbic life, but rather with the conditions in which specific organisms are grown." In considering the condition and requirements of so-called rural districts, it had always appeared to him that some explanation of the term should be made. The term "rural district" might be considered, as far as the question of housing was concerned, in two ways: (1) when viewed in the light of the legal powers of its governing authority as a *rural* district—i.e., as an arbitrary division, distinguishing it from *urban* districts; and (2) when viewed as to its actual constitution—i.e., in the light of its proportion of population to area and the occupation of its inhabitants. Many large "rural districts," particularly in and near manufacturing and mining parts of the country and in districts near London and large towns, included contributory places of an urban character, and were rural only in name, and it was important to recognise their difference from purely agricultural districts. It was only reasonable that where houses for the working-classes were inadequate the consideration of building by local authorities and the nature of the dwellings most suitable to meet the local wants must be regulated by the constitution of the district and by its prevailing industries. For that purpose he proposed some such division as the following: (1) the metropolis proper, the condition of which was unique and with the exception of certain generalities beyond the scope of that discussion; (2) suburban districts, where the question of accommodation was somewhat less acute than in the actual centre of London; (3) extra-suburban districts—i.e., just beyond the immediate suburbs, often some 15 or 20 miles out, and many of which were in a transition state, but gradually losing their rural character by absorption into the suburbs of the spreading metropolis; (4) agricultural districts, where the poorer classes mainly, if not entirely, worked on the land; (5) cities and large provincial towns, where in the majority of cases special conditions of situation, staple industry, &c., made the question of the necessity for further provision of houses for the working-classes almost purely local; and (6) the suburbs of cities and large provincial towns, respecting which the conditions were extremely variable and must be dealt with on their individual merits. The districts coming under the head of rural districts would mainly be under the divisions Nos. 3, 4, and 6, and the working-people resolved themselves into three classes: 1. A section in good work and receiving wages varying from 25*s.* to 30*s.* a week, but yet where there was the greatest difficulty in obtaining a decent dwelling for a family, from 6*s.* 6*d.* to 8*s.* 6*d.* being frequently paid as house-rent alone in districts indicated as "extra-suburban." This led to the inevitable lodgers and the consequent overcrowding with the attendant evils. 2. A section mainly including the ordinary agricultural labourer, with a varying wage of about from 12*s.* to 22*s.* a week. In many cases, particularly on large estates, this class was well housed in cottages from 1*s.* to 2*s.* 6*d.* a week rent with a good garden and often a supply of milk; in others the cottages might be cheap, under 2*s.* a week, but too small for a family, damp, ill-drained, badly supplied with water, and in a bad state of repair. Many of these cottages were let with farms and the tenant farmer was the employer and sublet the cottages to the labourers. In this case if the cottage was in bad repair it was difficult or impossible for the labourer to get his master to insist on repairs, as the farmer was reluctant to request the landlord or his agent to improve the condition of the labourer's cottage, having in these days of agricultural depression many other and, in his opinion, more pressing matters on which to obtain his landlord's consideration. As a rule, however, the worst class of cottage was that owned by poor persons who had to live out of the proceeds of old cottage property, frequently mortgaged, and where practically no repairs had been done for years, and interference meant the owners becoming chargeable to the parish. Cottages owned by labourers themselves were rarely in satisfactory condition. 3. The third and, fortunately, by far the smallest section in rural districts would include those having no regular occupation and having an alternating existence between a slum cottage, the workhouse, the gaol, and the road. That was the class which so frequently came under the notice of the Society for the Prevention of Cruelty to Children and the school attendance officer and the children of whom were such active agents in the spread of infectious and parasitic diseases in our elementary schools. The bad influence which insanitary and overcrowded cottages had upon the public health could hardly be over-estimated. To his mind the foremost evil was the lowering of the individual stamina of those living under bad conditions. Next to this came those two most formidable diseases of infant life, whooping-cough and measles, which between them in the year 1899 caused in England and Wales over 19,000 deaths, the vast majority of these occurring among children of the working-classes. The obstacles to the provision of an adequate number of healthy cottages in rural districts were many and great, so great that although increased powers to provide accommodation were given ten years ago yet he believed that so far only two rural district councils in England had reached the stage of actual buildings. Proposals to adopt Part III. of the Housing of the Working Classes Act had, however, in many instances stimulated local enterprise to provide the necessary accommodation. Unfortunately, in the majority of rural districts the staff of sanitary inspectors was inadequate and only sufficient to cope with routine work and general nuisances, leaving little time for the detailed inspection of cottage property, which frequently belonged to persons with local interest who had the power to oppose the annual re-election of inspectors. With insecurity of tenure it was unlikely and unreasonable to expect that the majority of sanitary inspectors or medical officers of health would take the active steps which they otherwise would. Again, the clerks to rural authorities naturally had no great enthusiasm in the matter of adopting acts of this kind which required great attention and caused endless extra meetings, and as experience showed in the great majority of cases eventually were allowed to fall through at any earlier or later stage. When it had been fairly shown that further cottage accommodation was required fresh housing should be made before closing of insanitary property, otherwise the ejected families either overcrowded other cottages near or else left the neighbourhood. The all-important question in starting a scheme was whether the cottages would be self-supporting or become a burden on the rates. Where land was not high-priced he had every reason to believe that with care and economy, even with the present high price of material and wages, rural councils could build cottages just to pay their way; and if from exceptional local circumstances there was a slight loss on them it should be looked upon in the light of an insurance premium on the health of the place. They naturally looked with considerable expectation to the Bill now before Parliament to amend Part III. of the Housing of the Working Classes Act, 1890, but a perusal of the Bill as amended in committee gave little hope of making the mode of procedure less cumbersome for rural districts. He hoped to elicit opinions specially (1) as to the urgent necessity for better cottage accommodation in many rural districts; (2) as to the desirability of rural district councils undertaking the building of cottages; and (3) as to the insufficient air-space in crowded cottages being greatly responsible for the high death-rate among the working-classes from such diseases as measles, whooping-cough, and phthisis.

Dr. J. GROVES (Carisbrooke) said that the inspectors had

to collect information for the medical officers. In many rural districts landlords had to be dealt with directly. The landlords had often very little return and it must therefore be shown clearly that better accommodation was necessary. Cottages were often closed by the local authorities because landlords would not repair them, and the labourers were forced into the nearest towns. The duty of the medical officer was to state what was right from a sanitary point of view, but the responsibility of carrying out his recommendations rested with the local authority. Security of tenure was the only safeguard and that could be obtained only by the Local Government Board.

Dr. H. PECK (Chesterfield) related a number of instances of country persons in his district who lived in extremely bad houses. The present system of providing houses under the Housing of the Working Classes Act was far too complicated. Until that was simplified there was little chance of making any material improvement in rural housing.

Sir HUGH BEEVOR (London) said that the question should be mainly in the hands of the county medical officers. He suggested that the dampness of cottages might be ascertained in country districts and valuable data thereby afforded in the study of phthisis.

Dr. D. G. SUTHERLAND (Cambridge) suggested that rural improvement schemes might be run alongside the many that were advanced in favour of towns. The hands of the sanitarian were often stayed because he knew that if insanitary houses were condemned no others would be built in their place. The stamina of the nation was deeply involved in the question of the housing of the rural poor.

Dr. J. HADDON (Hawick) thought that medical officers of health did not fully avail themselves of existing powers. He urged that powers should be given to regulate the construction of cottages and that an isolation room should be attached to each dwelling.

Dr. H. JONES (Rhondda) lamented the insufficiency of the staff and the apathy of the Local Government Board in the matter. At the same time pressure from that body, however, was often ignored by the local authorities.

Dr. TEW, in reply, said that insecurity of tenure retarded both inspectors and medical officers. He agreed with Dr. Peck that the trouble given to the clerks by Part III. of the Housing of the Working Classes Act was most detrimental. There was no more striking feature in country cottages than the gutters, which were very often very defective and led to damp walls.

A vote of thanks to Dr. Tew was proposed by the PRESIDENT and carried unanimously.

PSYCHOLOGY.

WEDNESDAY, AUGUST 1ST.

The Bearing of Sexual Functions and Diseases of the Sexual Organs on Insanity and Crime.

Dr. MACNAUGHTON-JONES (London) opened a discussion on the Correlation between Sexual Functions and Insanity and Crime. He pointed out that various affections of the genitalia, internal and external, might have possible correlative mental disturbances and that malpositions and displacements of the uterus and adnexa, inflammatory and neoplastic lesions, and perverted sexual habits—e.g., masturbation—might give their characteristic colour to mental troubles. Insanity might arise from masturbation as well as from the changes attending the onset of sexual life (puberty and adolescence) or its close (the menopause). Psycho-pathology and gynæcology had a common meeting-ground in the sexual ailments of women, and in this field might be found the causes and conditions which in women gave rise to neurasthenia, hypochondriasis, melancholia, mania, and dementia. Hystero-psychoses had their origin in uterine and ovarian troubles, as was now almost universally recognised. Much depended upon difference of environment and upbringing. The sensitiveness of the cultured, refined, and pretty woman of society might result in mental trouble from causes which did not affect the agricultural labourer's wife, the city seamstress, or the factory hand. Special regard should be had to the importance of the period of adolescence from a medico-legal and criminological standpoint. The question of the gynæcological examination of female patients who were insane must be left to the discretion of the asylum physician. When gross lesions or tumours of the uterus and adnexa were present in such patients removal should be practised. The risk of post-operative mental derangement was slight or absent in women previously healthy, and when such derangement resulted it was not generally serious or permanent. Aberrant uterine and sexual functions when present in a woman who had committed some crime or offence should be always carefully considered because such a condition might be a determining cause, and its removal might do away with the tendency to crime or wrong-doing.

Dr. J. G. SOUTAR (Gloucester) deprecated undue gynæcological examination of female patients, especially as a routine practice, this being decidedly a disturbing process.

Dr. BERNARD O'CONNOR (London) said that the approach of the menopause should be considered as an important point in determining the criminal responsibility of women at the age of 43 or 44 years.

Dr. WYNN WESTCOTT (London) said that in his experience as a coroner at inquests on 200 women who had committed suicide he found that the majority were at the "change of life" and that the younger of these appeared to have been menstruating.

The PRESIDENT (Dr. PERCY SMITH of London) deprecated the routine vaginal examination of female lunatics and stated that some gynæcological methods tended to develop the patient's hypochrondriasis.

Dr. SEYMOUR TUKE (London) commended the coöperation of psychological and gynæcological study.

Mr. G. A. CARDEW (Cheltenham) said that gynæcological examination was unnecessary in the vast majority of cases seen by him—i.e., female school teachers and students, who suffered from amenorrhœa, but who recovered under rest, fresh air, and good diet.

Dr. MACNAUGHTON-JONES briefly replied.

Epileptoid Mania.

Dr. E. S. PASSMORE, assistant medical officer of Banstead Asylum, read a paper on Epileptoid Mania. Patients suffered for some years from fits, probably from childhood, and then some day, without warning, mental symptoms of a characteristic kind supervened on a fit. The mental symptoms were confusion of ideas and loss of memory and the unconscious performance of some apparently purposive act. At a later stage maniacal outbreaks of an impulsive or homicidal character might develop, and temporary delusions might also arise as the result of hallucinations. In other cases the convulsive attacks were entirely absent, their place being taken by periodical maniacal outbursts. Clinical histories of a few cases were detailed and the conclusion reached was that the periodical convulsive attacks of epilepsy might in some patients be replaced by periodical maniacal attacks (psycho-epileptic attacks). It was also urged that so-called "recurrent mania" was nothing but an epileptic insanity. For example, a female patient, aged 31 years, admitted to Banstead Asylum as suffering from acute mania in 1884, was discharged in 1887. Eight days later she was readmitted with acute maniacal symptoms. After four years she was discharged, but readmitted in five days, and had since then been a constant inmate of the asylum. Her attacks of maniacal excitement now occurred at shorter intervals than previously and between the attacks she was perfectly rational. The attacks had a comparatively sudden onset, with twitching of the facial muscles and mental confusion lasting a few hours. She then became maniacal and dangerous and exhibited murderous impulses. When this stage had subsided she was dirty and destructive in her habits and collected rubbish. The whole attack lasted a week or a fortnight and she then slowly recovered. After an interval the same cycle of events was repeated. The patient's brother and sister were insane, but no other details of family history were obtainable. In other patients similarly afflicted a family history of insanity and epilepsy was obtained. Dr. Passmore concluded that the mania associated with ordinary epileptic insanity and that known as recurrent mania showed a marked similarity in clinical symptoms, and he suggested that such cases of recurrent mania as exhibited periodical excitement in the absence of delusions should be regarded as epileptic in nature and should be designated "epileptoid mania." Of course such conditions as general paralysis, chronic alcoholism, and cerebral wasting, in which epilepsy was merely symptomatic, should not be confounded with these cases.

Mr. F. OLDFIELD (London), in discussing the above paper, said that epilepsy might be manifested by mental symptoms, especially such mental outbreaks as certain criminals were liable to and which Lombroso was one of the first to draw attention to.

Dr. LLOYD ANDRIEZEN (London) referred to the importance of classification as a scientific, practical, and economic measure, and to the places and institutions adapted for various classes of epileptic patients. Epileptic lesions might be present in idiots, imbeciles, paraphreniacs (criminals, borderland cases, &c.), and in ordinary lunatics. Psychic epilepsy led to the development of automatic states of sub-consciousness, with loss of the sense of personal identity, during which crimes might be committed. This was a point of great medico-legal importance. He could not accept the view that true recurrent mania was identical with epileptic mania. Both in pathogenesis and clinical history there were important differences.

The PRESIDENT did not consider recurrent mania as an epileptic cerebral or mental disease. Attacks of recurrent mania usually began more gradually and there were less confusion of mind and loss of memory for the occurrences than in epileptic insanity. There was some relationship to epilepsy in rare instances—e.g., in a case observed by him in which one of the maniacal attacks of a patient suffering from recurrent mania ended with a series of convulsive seizures.

Dr. J. G. SOUTAR said that in many essential particulars recurrent mania proper was different from epileptic insanity, and Dr. Passmore's contention of their identity could not be sustained. It was necessary to guard against a too great laxity towards criminals by ascribing criminal deeds to epilepsy.

The meeting was then adjourned to the next day.

PHYSIOLOGY.

WEDNESDAY, AUGUST 1ST.

The proceedings of the section opened with a debate on

The Formation and Excretion of Uric Acid in Health and Disease,

introduced by the President, Dr. W. D. HALLIBURTON, Professor of Physiology in King's College, London. He said that their more exact information on the subject dated from the work of Mares and Horbaczewski, the former of whom pointed out that the increased output of uric acid following a meal commenced too soon to be attributable to tissue metabolism, and the latter associated the production of uric acid with the liberation of nuclein. Horbaczewski's theory, though not tenable in all its original details, had been the basis of most of the more recent work. Chemists as well as physiologists had given attention to the matter, and one in particular, Fischer, had done good service in showing the possession by uric acid and the alloxuric bases of a common radicle—purine. Smith Jerome found that feeding on foods containing nuclein always increased the output of uric acid in the urine, whilst Hopkins and Hope pointed out that the insolubility of nucleins in gastric juice precluded the assumption that they furnished the whole of the uric acid immediately following a proteid meal, and further, that the quantity of uric acid produced by a *flesh* diet was too great to be wholly due to the small amount of nuclein therein contained. But flesh, though poor in nuclein, was rich in purine bases (particularly in hypoxanthine), and this, according to Smith Jerome, accounted for much of the uric acid in the urine. The uric acid of the urine was not the whole of the uric acid produced in the body. According to Kossel and Goto uric acid formed combinations with nucleic acid, at all events, *in vitro*; such might also be the case *in vivo*. Hugo Wiener found that a "surviving" liver could destroy uric acid, as could also extracts of other organs, and Parker described excretion of purine-containing substances into the bowel. Burian and Schur stated that every healthy adult excreted in urine a fairly constant quantity of purine bases characteristic of himself and apart from his food (endogenous urinary purine); and in addition, through the same channel, purine derived directly from his food (exogenous urinary purine) in quantity characteristic of the foodstuffs and not of himself. Further work on these lines promised well for the elucidation of purine problems in general and of the particular purine problem now before them—viz., that of uric acid.

Dr. A. HAIG (London) had examined his urine on nearly 3000 days and had come to the conclusion that the amounts of uric acid and urea formed in the body bore a constant ratio to one another—viz., 1 to 35. Excretion was more variable than was formation of uric acid, owing to control over the amount of uric acid ingested and over its solubility. In this country disease due to uric acid was caused rather by its ingestion than by its formation in the body.

Dr. T. H. MILROY (Edinburgh) referred to the importance of metabolism as a factor in the production of uric acid. Uric acid could certainly be produced from nucleins in food, but equally certainly from the nucleins of living cells. Nuclein-metabolism in birds was analogous to that in mammals. Dr. Milroy would speak further on the metabolic side of the question at a later meeting of the section.

Dr. F. G. HOPKINS (Cambridge) emphasised the origin of uric acid from non-nuclear sources. Administration of fruits might greatly reduce the output of uric acid and this probably rather by preventing its synthesis than by hindering its separation when formed.

Dr. W. J. SMITH JEROME (Oxford) considered it to be proven that some of the uric acid excreted was not derived directly from food, and that as much of it as did come from food was derived from alloxuric nitrogen. He commented on the supposititious nature of many statements made on the subject.

Dr. J. HADDON (Denholm) referred many disorders of nutrition to excess of food, more particularly to that of animal origin.

Dr. HARRY CAMPBELL (London) observed that attacks of gout and gravel were rarely synchronous. The quantity of food taken was as important a factor as was its quality in relation to uric acid production.

Dr. R. J. ANDERSON (Galway) considered that the nervous system was responsible for many variations in tissue activity and in activity of excretory organs.

Dilatation of the Pupil from Cortical Stimulation.

A paper was read by Dr. J. HERBERT PARSONS (London) on the above subject. Experiments on dogs and cats, he said, showed that dilatation of the pupil was not necessarily associated with deviation of the eyes or other movements. It was best obtained by excitation of the "oculomotor" and "visual" areas of the cortex and was abolished by excessive anæsthetisation. When well marked the pupillary effect was accompanied by all the usual results of stimulation of the cervical sympathetic and was usually more pronounced in the contra-lateral eye. The effect was diminished but not abolished by section of both cervical sympathetics; it was, on the other hand, completely abolished by intracranial division of the oculo-motor nerves subsequently to cutting the sympathetics. Division of the corpus callosum did not prevent the effect. Excitation of the central end of a cut afferent nerve still caused dilatation after cutting the sympathetics. This must be due to inhibition of the third nerves.

Dr. E. W. CARLIER, Professor of Physiology in the University of Birmingham, read a paper on

Changes in the Cell of the Newt's Stomach during and after Secretion.

Much of the work done on this subject was communicated to the Association at Edinburgh and the present paper was an appendix thereto. As the cell parted with its zymogen a new substance—prozymogen—was produced by the nucleus at the expense of the chromatin. This prozymogen became zymogen, which was not discharged until the nuclear chromatin was again restored. During secretion the nucleoli increased in size, were discharged into the cytoplasm, and disappeared, new ones immediately replacing them. They were probably excreta. The paper was illustrated by microscopic preparations, lantern slides, and diagrams.—Dr. R. J. ANDERSON and Dr. T. H. MILROY took part in the ensuing discussion.

Professor CARLIER also demonstrated Microscopic Preparations of the Kidney showing Cilia-like Projections from Cells lining the Convoluted Tubules. These had not previously been shown in the case of man. Analogous cells were obviously motile in amphibia but no ciliary motion had ever been seen in them in mammals.

Dr. A. G. LEVY (London) read a paper on

Fatigue of the Cerebral Cortex.

The motor cortex of the cat was excited by faradaic currents and contraction of the correlated muscle recorded. This did not fatigue the muscle itself. With sustained excitation the muscular contraction was at first tonic but became clonic as fatigue supervened. The onset of fatigue was rapid, contraction of the muscle rarely lasting for more than 30 seconds. Rest restored excitability. Cortical fatigue could also be elicited by repeated short excitations at regular

intervals. Under these circumstances irregularity of response preceded failure to react. The paper was illustrated by reproductions of tracings.

Dr. D. F. HARRIS, Lecturer on Physiology in the University of St. Andrews, read a paper on

The Inertia of Protoplasm.

Analogy might be drawn between the inertia of inanimate matter and certain properties of protoplasm. Thus one might conveniently speak of anabolic inertia of protoplasm (i.e., its resistance to excitation) and of katobolic inertia (i.e., its tendency to continue active after cessation of a stimulus). The former state was instanced by all "latent periods," the latter by the continued activity of isolated tissues. The terms also lend themselves to description of psychical states—e.g., apathy and superstition on the one hand and habit and fanaticism on the other.

OPHTHALMOLOGY.

WEDNESDAY, AUGUST 1ST.

Presidential Address.

Dr. W. A. BRAILEY, ophthalmic surgeon to Guy's Hospital, took as the subject of his address Ocular Headaches—that is, headaches in association with refractive and muscular errors. While the great majority of headaches were, he said, independent of the eyes, it was a matter of general acceptance that ocular errors produced headaches, though by no means in all cases. Were there any errors especially effective in the causation of headaches or in producing any particular form of headache? Muscular errors were by far the most important, though, of course, these must be ultimately of nervous origin. Other influences than muscles were glare and sudden irregularities in the distribution of light, such as flickering. Muscular ocular movements were intrinsic (pupillary and accommodative) and extrinsic (of the recti and obliqui muscles). The pupillary movements were unimportant except as slightly influencing glare. The accommodative movements were bound up with the great majority of ocular headaches.

It was a general law that the larger the ocular error the less the effect produced on the head, the reason being that a great defect of accommodative power led to its abandonment, the patient seeing as best he could without it. So also uncorrected presbyopia was rare as a cause of headache, except just at its commencement. It might cause strain and burning but not headache. A highly hypermetropic patient would read close with poor vision but no aching. So also patients with high hypermetropic astigmatism. Similarly great inequality of refraction gave comparatively little trouble, the worse eye being abandoned to disuse and muscular action being regulated by the better one. High degrees of myopia and myopic astigmatism produced little effect, distant objects hardly being seen, while near vision could be remedied largely by adjusting the distance. But low degrees of hypermetropia and hypermetropic astigmatism were often causes, especially when they led to an excess of effort both in amount and duration beyond that which was needed, as with weak muscles or hyper-sensitive nervous supply, this spasm of accommodation continuing in distant vision, and even under retinoscopy in the dark. But both spasm and headache were more produced by moderate inequality of refraction, especially if astigmatic and most of all by astigmatism with asymmetry of the axes. The ciliary muscle appeared to act unequally on the two sides in correcting this or a muscle even in different parts of its circuit in remedying astigmatism or asymmetry of axes. Evidence of this was seen when atropine revealed astigmatism on one side or both, increased its amount, or altered the axis of the correcting lens in amount less than 90°. So astigmatism, often unequal-sided, might become manifest when presbyopia began, and refractive defects revealed themselves to retinoscopic examination in eyes blind with fundus changes, such as optic atrophy, in proportion beyond that observed in average-seeing eyes. The above refractive errors caused aching in the eyes, often passing presently or on the following morning into the brows, immediate aching in the brows, temples, the back of the head, and occasionally also headache of the type of migraine. Treatment by appropriate glasses was of extreme value. Errors of the extrinsic muscles produced headache, but less than of the accommodative muscles, though more migraine, more giddiness, and more general distress. Here, also, the rule held that the larger the amount of error the less the disturbance, the explanation being that in considerable degrees of strabismus the image fell on the peripheral and so less acutely seeing retina.

But another potent factor in headaches was the tendency to binocular vision, and so we had another rule—the stronger the tendency to binocular vision the more headache produced by an error of the recti and obliqui muscles. Binocular vision varied much in its strength in different subjects. Possibly there were natural differences related to the centres as much as to the muscles, for he had seen such indisposition run through families. But binocular vision appeared to be generally made rather than born. Babies often squinted irregularly till after a few weeks of life they got their yellow spots gradually to accord. He had met cases where, instead of bringing them into harmony, the child had developed another retinal point to work with the opposite yellow spot in an eye congenitally squinting, though with fair concomitant movement. Rectification of such apparent squint by tenotomy would produce diplopia. Other cases were common where the two eyes remained quite independent; for example, where there was congenital want of power of both external recti from central defect diplopia was absent and the child saw to his left with the right eye, and *vice versâ*. Binocular vision was not strongly established by the early age at which ordinary concomitant squint arose; so diplopia, though present, gave no trouble, and, indeed, was little noticed even in the comparatively rare cases where each eye had normal refraction and vision. But to take the case of a paralytic strabismus—for example, of the superior oblique—suddenly arising in an adult: here was much disturbance, and the same with cases where, when the two eyes had been used for different purposes—that is one for near and the other for far—they suddenly attempted by lenses and prisms to unite the images, the results being distress, giddiness, migraine, and other headache. But extrinsic muscles might, like the ciliary, have large latent defects, and he suspected that many obscure cases of headache had their solutions here.

Besides individual tendencies other influences altered the disturbing effect of ocular errors: (1) age, the errors being most potent between the ages of 10 and 45 years; (2) sex, women being the greatest sufferers; and (3) nationality. His experience did not extend much beyond the English people and the citizens of the United States, the latter of whom were eminently affected by these errors, so that a series of medical men and operators had arisen to take charge of that special sub-section of practice. Doubtless there were other influences, such as occupation and temporary states of the nervous system.

The Treatment of Chronic Glaucoma.

In opening a discussion on this subject Mr. RICHARDSON CROSS (Bristol) said that he based his opinion not only upon general experience but upon 47 private cases which had been most carefully examined and noted. Although all were agreed as to the necessity of operating on acute cases, yet many held different views as to the desirability of treating chronic cases in the same manner. The first and most important question was the diagnosis, and he considered that the field of vision was of the utmost importance, and observation on this gave the most valuable information in distinguishing between some cases of optic atrophy and chronic glaucoma, the contraction on the nasal side being very characteristic. If the disease had progressed very far probably nothing would save the eye, but in all other cases he was strongly in favour of iridectomy, and the sooner this was done the better. It was a comparatively simple thing to perform the operation in an early stage with a quiet eye, but very different with the reverse condition present. In some few cases where the tendency to the disease was very slight it might be kept quiet and non-progressive for years by the aid of myotics only, but usually the disease was not stayed by this alone. He mentioned an interesting case of myopia of 3 D with glaucoma where the myopia increased to 12 D, but the glaucoma got no worse. He then showed various charts of fields of vision both before and after treatment with myotics and iridectomy, and in most an increase of the field followed the diminution of tension. In one case considerable improvement followed iridectomy, but it subsequently deteriorated. He thought sclerotomy a most useful operation and preferred to do it with a keratome rather than with a Graefe's knife, and in the early stages he preferred this operation to iridectomy. He also considered that blindness would

follow in any well-marked case if drugs alone were relied upon.

Dr. J. HERN (Darlington) thought that the early diagnosis was the one thing needful and he considered that the relation between glaucoma and optic atrophy was very intimate. He was much in favour of establishing a communication between the anterior chamber and vitreous by passing a knife backwards (after iridectomy) through the cornea and suspensory ligament.

Mr. WORK DODD (London) said that his experience of iridectomy was not very satisfactory and he had been led in one case to excise the superior cervical ganglion of the sympathetic with immediate benefit.

Dr. KARL GROSSMANN (Liverpool) had seen much benefit arise from the sub-conjunctival injection of normal saline solution, and he sometimes increased the strength to 2 per cent.: this could be repeated every day for a week or longer.

Mr. E. D. BOWER (Gloucester) was in favour of prolonged treatment with eserine and cocaine. His experience of iridectomy was that in many cases the disease progressed.

Mr. GEORGE A. BERRY (Edinburgh) said that he used myotics for a long time only in the very early stage of chronic glaucoma, but this sometimes lasted for a very long time and he mentioned one case in which the sight was no worse 18 years after the disease was discovered. In all other cases he advised iridectomy and the sooner it was done the better. He preferred the keratome for both sclerotomy and iridectomy.

Mr. DEVEREUX MARSHALL (London) thought that the operation proposed by Dr. Hern was a very dangerous one and that injury to the lens and ciliary body would be very likely to occur.

The PRESIDENT thought that the disease was cured when the tension was normal, but atrophy of the optic nerve might progress and cause loss of vision. He favoured very early operation in nearly all cases.

Mr. RICHARDSON CROSS briefly replied.

Dr. KARL GROSSMANN demonstrated a lantern which he had invented for the detection of low degrees of colour-blindness.

Mr. SYDNEY STEPHENSON (London) read a paper on the Etiology of Phlyctenular Affections of the Eye. He noticed that in a very large number of cases there was either eczema or tuberculous tendency.

In the absence of Mr. G. FOGGIN his paper on Epicanthus was read by the SECRETARY, Mr. W. W. Sinclair. The author pointed out that the flatness of the nose was probably due to undue tightness of the cheek-muscles and tissues preventing the proper expansion of the nasal bones. He suggested a new method of raising the flat-nose bridge by means of subcutaneous division of tissues.

DISEASES OF CHILDREN.

WEDNESDAY, AUGUST 1ST.

Dr. NESTOR TIRARD (London) introduced the subject of

The Nature and Varieties of Pneumonia in Children

in a very lucid and interesting paper. Pneumonia, he said, in adults was a very satisfactory subject to lecture about on account of its well-marked character, physical signs, and symptoms, the chief variations from type being due to more or less involvement of the lung substance or to constitutional or acquired tendencies, such as alcoholism, of the patient. There were decidedly greater difficulties in dealing with pneumonia in children. Broncho-pneumonia seemed to have attracted more attention in children, hence some of the difficulty in diagnosis. The distinction was not well defined between broncho-pneumonia and vesicular bronchitis. Broncho-pneumonia was common in children up to the age of three years, after that age many cases conformed to the true lobar or croupous kind. The extent of the lung engorgement was greater in children than in adults, and this probably was responsible for the confusion with broncho-pneumonia. A general infection was evident in considering the symptoms and signs of acute pneumonia in children. This general infection had been attributed to the action of various micro-organisms, pneumococcus, &c., hence an anti-pneumonic serum had been used; but the subject had not yet reached a satisfactory stage. It was very doubtful whether pneumonia was really contagious. Dr. Pepper, the well-known American pharmacologist, had, indeed, given a series of instances, but generally contagious pneumonia had been pneumonia closely following influenza. The cases already in a ward did not produce more cases of pneumonia in those already there for other complaints. One case was quoted of a nurse who had nursed a patient suffering from diphtheria and who developed pneumonia and died. Speaking of abnormal forms of pneumonia Dr. Tirard said that the temperature might be abnormally high, say up to 106° F., either at the beginning or just before the crisis; there might be an unusually sharp crisis and a fall of 9, 10, or 11½ degrees; and there might be wide oscillations of temperature (5 degrees of difference—e.g., between the night and the morning temperatures) which was apt to confuse diagnosis. In one case the crisis occurred as usual at the fifth day; in a second the oscillations kept on for some weeks. This keeping up of the temperature might be due to other causes, such as an attack of diarrhœa or to extension of disease to other lobes of the lung. The initial symptoms were occasionally like those of tuberculous meningitis—headache, squint, retraction of the head, and vomiting, or the sickness and delirium might suggest cerebral tumour. As to abnormal physical signs, in spite of high temperature (of tableland character), rapid respiration, and all indications that the child had pneumonia, there might be no physical signs observable. In two cases quoted the physical signs (dulness and tubular breathing) only appeared at the crisis. Dr. Tirard gave a bad prognosis in the case of anæmic infants. He suggested that the cerebral symptoms and high fever were probably due to the retention of toxins in the blood in place of their being eliminated by the lungs. The difference in type might be due to different organisms, such, for instance, as the influenzal kind, which was not quite a true lobar pneumonia. He also touched upon the gradual development of tubercle out of an attack of presumed pneumonia.

Dr. LORIMER HART (London), after congratulating Dr. Tirard on his introduction to the discussion, dealt with the various forms of broncho-pneumonia, vesicular bronchitis, and pneumonia. His explanation of the nurse's case alluded to by Dr. Tirard was that it was a true diphtheria of the lung. He had seen six cases of pneumonia (in adults) in which the patients all died from heart failure; this he suggested was due to contagion, and in these cases possibly the anti-pneumonic serum might be of service. He believed that cases of pneumonia in children which presented cerebral symptoms were nearly always cases of special disease of the lung. Further, where the physical signs were late in appearing he suggested that the explanation lay in the disease gradually spreading from the interior of the lung to the surface. He considered that it was possible to arrest the progress of the complaint, engorgement of the lung in some cases not advancing.

Dr. H. O. NICHOLSON (Edinburgh) gave some valuable information on the question of pulse and blood-pressure in this disease. After the third day the pulse was dicrotic and the blood-pressure was low. In croupous pneumonia at the onset the pulse was hard and at high pressure, and after three days or so it was dicrotic and at low pressure. The tracing was irregular and the pulse was rapid. It was in some cases very like that gained from a tracing of mitral stenosis. In broncho-pneumonia there was not the same high tension at first nor quite the same tendency to fall. In unfavourable cases the high-tension pulse persisted. The chief indication of treatment suggested by study of the pulse was to sustain the blood-pressure. Digitalis did not seem so useful as strophanthus, strychnine, and carbonate of ammonia. In the first day or two of croupous pneumonia antimony was of much value.

Dr. A. M. GOSSAGE (London) dealt with the relationship of lobar and lobular pneumonia. Both might be due to the same pneumococcus. Clinically they were not much alike. Possibly the lobar pneumonia case got infected through the blood, the lobular through the lungs, and cases were met with where there was great difficulty in assigning them to one or the other. He explained that sometimes lobar pneumonia preceded lobular pneumonia. He thought that the question of the pneumococcus as the cause of pneumonia was not quite settled yet, as the coccus was found in other conditions. He dwelt on the varieties of pneumonia, insisting on an epidemic form.

Dr. W. S. FENWICK (London) said that at the commencement occasionally there was violent abdominal pain, in cases where the pneumonia started low down in the lung and the accompanying pleurisy affected the diaphragm. He quoted one case attended by severe opisthotonos, suggesting

meningitis; on the third day there was a patch of consolidation in the lung and as this cleared up the child got well. Another method of onset was by acute gastro-intestinal catarrh. For this he gave a bad prognosis, those cases starting in this fashion being generally fatal. The prognosis of pneumonia was difficult in children; those cases wherein a rapid distension of the bowel took place were nearly always fatal.

The PRESIDENT (Dr. F. TAYLOR of London) said that if they believed, as was customary now, that pneumonia was due to the infection by a toxin, they need not be surprised at the varieties of the disease. He had had two cases (not in children) where there was most severe abdominal pain at the onset of acute pneumonia; also, dealing with the question of contagion, he mentioned that he had seen four or five children attacked almost simultaneously by pneumonia, several years before the last invasion of influenza, and he considered this due to a contagious cause in all probability. He would agree to allow that the conveyance of contagion from one person to another must be very rare. He could hardly agree with the idea of the toxins being eliminated by the lung, as the fibrin exuded into it was not all expectorated but mainly absorbed. He then dealt with the question of high type and low type and the different varieties of pneumonia. Generally speaking, if the patches were large it was lobar pneumonia, if small lobular. He described three types of temperature: (*a*) that of the sudden rise, level, and sudden fall; (*b*) long oscillating temperature lasting two or three weeks; (*c*) short oscillating temperature ending on the fifth or sixth day.

Dr. T. D. LISTER (London) had examined many cases of broncho-pneumonia in children and post mortem he had never failed to find the pneumococcus. Sometimes the staphylococcus also was present. The consolidation of the lung in children under two years of age was of the catarrhal type. In ordinary sero-fibrinous pneumonia the infection took place probably through the blood, in catarrhal pneumonia or broncho-pneumonia through the air-passages or by direct extension of disease down the bronchi and tubes.

Dr. TIRARD, in replying, said that he would differentiate between capillary and vesicular bronchitis rather by whether the child died from asphyxia before the consolidation of the lung occurred. As he suggested the toxins were not eliminated by the lung and so they were retained and gave rise to symptoms. The comparative absence of physical signs in cases with cerebral symptoms explained itself by the poison retained in the blood causing the cerebral symptoms. His experience did not make him agree that apical pneumonia was generally attended by cerebral symptoms. He was also not at all sure that deferred physical signs were due to the spread of the disease from the centre to the surface of the lung. He commented on Dr. Nicholson's pulse studies and their value as giving suggestions for treatment. He considered that contagious cases of pneumonia were really cases of influenza followed by pneumonia. He would not consider an ordinary case of pneumonia in the ward in any way a source of danger. He concluded by thanking the meeting for their attention and congratulating the President on the good discussion which had been raised.

LARYNGOLOGY AND OTOLOGY.

WEDNESDAY, AUGUST 1ST.

The PRESIDENT (Dr. SCANES SPICER of London) read his address which was published in THE LANCET of August 4th (p. 369).—A discussion on

Intra-nasal Treatment in Ear Disease

was then opened by Dr. P. MCBRIDE (Edinburgh). He divided the subject into (1) the conditions of the ear liable to be affected by nasal changes, and (2) pathological conditions of the nose likely to involve the ear.—Dr. McBride was followed by Dr. CRESSWELL BABER (Brighton) and Dr. DUNDAS GRANT (London).—The discussion was continued by Dr. HERBERT TILLEY (London), Dr. JOBSON HORNE (London), Dr. WATSON WILLIAMS (Bristol), Mr. RICHARD LAKE (London), Dr. HOLBROOK CURTIS (New York), Dr. HEMINGTON PEGLER (London), and the PRESIDENT.—The openers of the discussion having replied the meeting adjourned. The time required for the discussion did not permit of any papers being taken.

In the course of the morning the section adjourned to that for Diseases of Children to take part in the discussion on a paper by Dr. J. THOMSON and Dr. LOGAN TURNER on the Causation of Congenital Stridor.

TROPICAL DISEASES.

WEDNESDAY, AUGUST 1ST.

The PRESIDENT, Colonel K. MACLEOD, called upon Dr DUNCAN for his paper on

Quinine: its Action and Mode of Employment.

Dr. ANDREW DUNCAN, I.M.S. (ret.), opened the discussion on this subject by reading a paper in which he dealt with the several opinions declared by medical men of many nationalities. French observers generally were of the belief that in the milder form of malarial fevers quinine was valuable as a prophylactic but that in the pernicious form it was well-nigh useless. The Austrians and Russians found no advantages from the use of quinine as a prophylactic. In India several observations had been made on this subject; as an example at Peshawur in 1886 during the autumn 1203 men took quinine with an admission of 10·22 per cent. for malarial fever, whilst among 1202 men who had no quinine the admission rate for malarial fever was 27·28 per cent. During the Ashanti War of 1873 no good results were notified from taking quinine as a prophylactic and the same was recorded during the Ashanti War of 1896. An investigation on this subject was instituted on the West Coast of Africa by Mr. Chamberlain on the recommendation of Dr. Manson, with the result that quinine was considered as an efficacious protection in 87·7 per cent. of the cases tested. Dr. Duncan contrasted the action of several other drugs with quinine. Of these arsenic, nim bark, berberis, narcotine, kreat, and inderjas were the drugs employed, but the action of all was inferior to that of quinine in the time they took to effect a cure. Dr. Duncan believed that quinine probably acted by destroying the malarial organism.

Major W. J. BUCHANAN, I.M.S., superintendent of the Central Jail, Bhagalpur, Bengal, communicated a paper on the Prophylactic Issue of Quinine: a Synopsis of an Experiment on a Large Scale in Indian Jails. He discussed the arguments for and against the so called "prophylactic issue" of quinine. In 1894 the experiment of giving daily or several times a week a dose of quinine or cinchonidine to every prisoner was tried in the Punjab. During the year the experiment was tried the sickness and mortality rates for the Punjab jails were so good that it seemed as if the good results were to a great extent due to the issue of quinine.

Dr. FIELDING OULD (Liverpool) read a paper on the Administration of Quinine with Special Reference to the Practice on the West Coast of Africa. He was of opinion that the beneficial action of quinine was due to the death and subsequent disintegration of the malarial parasite caused by the use of the drug and to the fact that quinine bound more closely to the hæmoglobin the oxygen present in it. Blood rich in malarial parasites but strongly impregnated with quinine was incapable of causing malarial infection when injected into a healthy person. Dr. Fielding-Ould objected to the use of the word "prophylactic" as applied to the exhibition of quinine. The drug could not prevent malarial infection but only attacked the parasites that were in the blood in a certain stage of their development. Unless young amœbulæ were present in the blood quinine could only do harm. In regard to treatment quinine was the sheet-anchor and might be administered by the mouth, by the rectum, or hypodermically, as occasion served.

The reading of these three papers was followed by a discussion.

Dr. PATRICK MANSON (London) remarked that quinine could only exercise its therapeutic action on the blood of persons residing in malarial infected countries when the parasite was present in the blood. To arrive at a scientific conclusion concerning the prophylactic use of quinine it would be necessary first to ascertain the kind of parasite present in the locality and then to administer the drug, as in the milder forms of malaria quinine was no doubt both prophylactic and curative, but in the pernicious forms its power was uncertain. Dr. Manson considered it important to ascertain the condition of the digestive organs before administering the drug, as in gastro-intestinal catarrh to give quinine by the mouth was to court disappointment in its action.

Lieutenant-Colonel MARSDEN, I.M.S., said that he had invariably given quinine both as a prophylactic and as a

therapeutic agent and the results were nearly always satisfactory. He mentioned one case of hæmoglobinuria positively traced to dosage with quinine, but he had only seen one case in 20 years' experience.

Mr. D. C. REES (London) gave his experience of quinine used as a prophylactic in Nigeria. He found that quinine given in five-grain doses daily, although it did not afford marked prophylaxis, served to lessen the severity and also the case-mortality of the attacks.

Dr. C. F. HARFORD-BATTERSBY (London) gave his personal experience of the use of quinine in Central Africa and came to the conclusion that it was highly efficacious. He had not seen any ill-effects from its administration.

Major E. WILSON, R.A.M.C., stated that in the Ashanti Expedition of 1895 quinine was tried for a time as a prophylactic and was discarded. He did not believe in heroic doses and had never seen blood in the urine after taking quinine.

Dr. B. S. RINGER (Canton) recorded a case in which complete blindness resulted from quinine taken in large doses. The patient, however, recovered the sight completely under iodide of potassium.

Lieutenant-Colonel MAITLAND, I.M.S., asked for information concerning treatment by methylene blue. He had had good results in his own practice from its administration. He stated that he had given quinine to pregnant women without any untoward effects.

Mr. JAMES CANTLIE (London) brought forward a case in which quinine was administered to a child aged four months by giving four grains thrice daily to the mother who was herself nursing the child and a quarter of a grain to the child with satisfactory results. He asked for information concerning the efficacy of giving the mother quinine as a means of treating fever in a child whom she was suckling.

Dr. HENDERSON (Shanghai) considered the administration of quinine to pregnant women as very likely to cause abortion. He advised opium to be given with the quinine if the state of the patient demanded quinine in the pregnant state.

Major RONALD ROSS, I.M.S. (Liverpool), stated that he believed that a "secondary" fever occurred in old malarial cases, due probably to enlargement of the liver and spleen. The fever was of a continued type, was not directly due to the parasites, and was not amenable to quinine.

Dr. GUTHRIE RANKIN related a case where hæmoglobinuric fever developed in a young man in 14 months after proceeding to Central Africa. The patient had never taken quinine as a prophylactic. When he returned to Africa he took quinine as a prophylactic and had no return of the disease during a residence there of two and a half years.

Lieutenant-Colonel OSWALD BAKER, I.M.S. (ret.), was of opinion that the prophylactic dose of quinine was usually too small and advised the same dosage for prophylaxis as for curative purposes.

The PRESIDENT strongly advocated Dr. Manson's view that the nature of the parasites infecting the blood should be ascertained before or during the administration of quinine. Koch recommended microscopical examination as a means of detecting malarious infection in a community as parasites might exist in the blood without pyrexia; this, although a laborious means of dealing with the disease, was necessary if the attempt was to be made to get rid of malaria by giving quinine.

Lieutenant-Colonel J. MAITLAND, I.M.S., read a Note on the Etiology of Filariasis. The discovery of the filarial parasite in the proboscis of the mosquito by Dr. G. C. Low of the London School of Tropical Medicine was not, in his opinion, conclusive evidence that filarial disease was spread by the bite of the mosquito. He was of opinion that it was a water-borne disease in all probability, and he ascribed the immunity of Europeans in the tropics to filarial infection to the fact that they drank boiled or filtered water.

A paper was communicated by Captain J. P. JAMES, I.M.S., on the Metamorphosis of the Filaria Sanguinis Hominis in Mosquitoes, especially with reference to its Metamorphosis in the Anopheles Rossii and other Mosquitoes of the Anopheles genus. Captain James was of opinion that the period of filarial metamorphosis in the mosquito had hitherto been stated at much too short a time. He held that in those cases in which seven days had been stated as the period required, the idea had likely arisen from the fact that the mosquitoes had bitten a filarial infected person before the observations were commenced.—Dr. MANSON and Mr. REES took part in the discussion, the latter stating that some species of mosquitoes served better as hosts for the filaria than others. He believed, in opposition to both Dr. T. L. Bancroft and Captain James, that the filaria nocturna cast its sheath in the mosquito's stomach before penetrating to the thoracic muscles.

Major BUCHANAN, I.M.S., communicated a paper on the Hot Weather Diarrhœa of India in which he described a form of "choleraic diarrhœa" in India similar to cholera nostras and the summer diarrhœa met with in England. He was of opinion that in India, as in England, non-infected cases of intestinal flux might occur during the hot weather.

Dr. GEORGE THIN (London) communicated a note on a case of Blackwater Fever (with specimens). The paper was based upon the results of an examination of organs and tissues which had been sent to him from Central Africa by Dr. Douglas Gray from a patient who died from hæmoglobinuric fever. The patient had always used a mosquito net. The specimens showed melanin in the spleen, in the liver, and in the kidneys, and in the case of the kidneys degenerative and destructive changes in the secreting epithelium of the tubules as well. Dr. Thin was satisfied from the appearance of the organs that the patient had died from acute malarial fever in which the hæmoglobinuria was a concomitant symptom, and although the parasites were absent in the tissues of the spleen, liver, and kidneys the fact did not militate against this view.—Dr. MANSON and Mr. REES joined in the discussion and Mr. Rees stated that from an examination of the organs of this patient he had come to a conclusion opposite to that arrived at by Dr. Thin.

Dr. ANDREW DUNCAN read a paper on the Diseases of Goorkhas. A form of malaria peculiarly resistant to quinine was prevalent amongst Goorkhas. Phthisis, mumps, and measles were prevalent amongst soldiers in the Goorkha regiments, but enteric fever was almost unknown. The married men in the Goorkha regiments were liable to ophthalmia caused by the way in which the married women shut up their houses and from the insanitary nature of their surroundings.

THE NAVY, ARMY, AND AMBULANCE.

WEDNESDAY, AUGUST 1ST.

The meeting opened with an address from the President which will be found at p. 371 in THE LANCET of August 4th. Inspector-General NINNIS'S address was followed by papers chiefly interesting to those engaged in the organisation of field and base hospital arrangements and the composition and *personnel* of the various corps and companies needed for removal of the wounded from the battlefield to the hospital, their services as first aid, and their subsequent care of the wounded and sick in hospital.

The first paper put down to follow the address of the President was one by Surgeon-General J. B. HAMILTON,

On the Past, Present, and Future of the Royal Army Medical Corps,

but was postponed owing to the unavoidable absence of Surgeon-General HAMILTON, and the secretary, Surgeon-Captain JAMES HARPER, V.M.S.C., read instead a paper for Surgeon-Lieutenant-Colonel J. E. SQUIRE, V.D., who was absent from the meeting. The paper was entitled

On the Augmentation of the Royal Army Medical Corps for War.

It reviewed briefly the present composition and arrangements of the Royal Army Medical Corps, its difficulties as regards adequacy of *personnel*, and pointed out how such necessary augmentation should be carried out. The author deprecated the employment of civilians intermixed with the regular forces of the Royal Army Medical Corps as tending to be subversive of discipline, as there would arise great laxity, as he no doubt supposed was the case now in South Africa. He then proceeded to point out that the civilian and auxiliary medical assistants should have such training as would entitle the War Office to call upon them from time to time with that confidence in their training and powers of maintaining discipline which a knowledge of their previous partial training would impart to the authorities.

The above paper was followed by a paper by Brigade-Surgeon-Lieutenant-Colonel GILES, V.D.,

On Volunteer Medical Organisation.

The following discussion on these two papers took place.

Mr. TREVES (London), late consulting surgeon to Her Majesty's Forces in South Africa, said that with reference to

the question of transport raised by these gentlemen in their papers it appeared that there was an impression in this country that the medical department in South Africa was deficient in transport. Now, every hospital of 100 beds had its own transport. It was very difficult indeed to make a field hospital mobile. Hospitals composed normally of 300 beds had been suddenly swelled into hospitals of 800 beds as the result of sickness, fever, &c. There was, therefore, the natural result that transport for the latter would, of course, seem inadequate, as that for a small hospital had to do duty for a larger one. Nevertheless, this most unprecedented demand on the resources of the department had been well met and the hospital work was done most efficiently. Judging from experience of the campaign in South Africa it seemed that it would be a distinct advantage if a large hospital followed an army in the field, with its situation somewhere near the general's headquarters. With regard to the working of the civilians, medical men, nurses, orderlies, &c., in South Africa, there was a distinct misconception as to their not pulling with the members of the regular forces. Everyone worked cordially for the success of the medical arrangements, and there was the utmost generosity and cordiality displayed on all sides by everyone, and whether in field or in hospital the utmost harmony prevailed. The orderly himself as an individual was an incredible difficulty. Nurses could not go into a field hospital, though the nurses worked splendidly at Colenso. He (Mr. Treves), through the great courtesy of the War Office, was himself provided with splendid transport and relays of horses and mules. He was thus able to take two nurses up country. Nevertheless, the nurses ought not to go beyond the base hospital. The orderly must therefore be depended upon. At present, as he is, he is an impossible person. He was neither man nor woman; he had to pitch and strike tents, dig trenches, act as porter, and then, perhaps, be called upon to assist at an abdominal section. Water being so scarce as it was in South Africa it frequently occurred that surgical cleanliness was not always as it ought to be, nor could it be carried out. The burning questions were, How could they obtain proper orderlies, what prizes could be given to induce proper and suitable men to come forward, and what could be done to induce them to enter the army? The formation of a reserve of properly-trained orderlies, bearer companies, and medical reserve ought not to present any difficulty. Young medical men, of whom there were a great many suitable from among those obtaining qualifications, might serve three years, one year with the colours and two years in the reserve. By the above methods he thought that the Royal Army Medical Corps, already so efficient, could be made as perfect as it was possible for human efforts to effect.

Surgeon-Major G. A. HUTTON (Leamington) said it was a wonderful thing that the Director-General could lay his hands on from 400 to 500 civilian medical men and 1500 St. John Ambulance Corps men. He wished to corroborate Mr. Treves as to the efficient manner in which the War Office and the medical department had carried out what was required of them. They must all remember that they were only human institutions and as such they could only hope for that degree of human perfection which was reasonable. He himself had been told by generals and those in authority that the Royal Army Medical Corps was splendidly represented and was most efficient. Under the circumstances more than was done was humanly impossible.

Dr. FORBES ROSS (London), speaking entirely as a civilian medical member, but from a public health point of view, wished to call attention to a point which might tend to clear up a great deal of the supposed neglect. If after such a sojourn as the troops had at Modder river, followed by exposure and continuous fighting on short rations, typhoid fever broke out, it was entirely an unforeseen matter. Now, if 10,000 men had an attack fever-rate of 5 per cent. this would give 500 enteric fever patients. This would require 500 beds and, from the nature of enteric fever, the changing of 500 pairs of sheets and blankets daily, and in addition these must be disinfected, for they were a distinct source of danger if not properly washed and stoved, for they would act as means of disseminating enteric fever among the wounded and other sick. It might also be looked at as a blessing that beds and bedding were not to hand, as by this means alone a terrible epidemic much worse than the present one might have been started. He advocated the digging of the ground over a surface of about six feet by two feet six inches, the soil thus disturbed to be broken up and raised six inches from the surrounding ground; this when spread with a waterproof sheet would provide a comfortable bed and could be changed from time to time and needed no such extensive transport as would the projecting of the amount of hospital equipment desired by those persons who forgot that this was primarily a war and not an expedition fitted out for the express purposes of treating enteric fever *al fresco* on the veldt, and ought therefore to have been equipped regardless of expense and transport needed or available.

Surgeon-Captain J. CANTLIE, V.M.S.C., then contributed a paper on

How to Link the Militia, Yeomanry, and Volunteer Medical Services with the Royal Army Medical Corps.

He advocated the bringing into line of the Volunteer, Militia, and Royal Army Medical Corps, to do away with the word "staff" as applied to the Volunteers, and have all the branches designated as "Medical Corps." He would have the men in any of the branches freely interchangeable for purposes of service and augmentation of the Royal Army Medical Corps. Among other things he deprecated the training of medical students along with and at the same time as the men of the bearer companies, for it was not proper that these future officers should occupy this position. In no other service were the cadets compelled to go through a similar experience.

This paper was followed by a paper by Brigade-Surgeon Lieutenant-Colonel G. S. ELLISTON, V.D., on

Brigade Bearer Companies.

He recounted the troubles and difficulties he went through, and the organisational difficulties experienced in order to bring the *personnel* of the medical staff as regards training to their proper state of efficiency.

These two papers were discussed by the following gentlemen:—

Surgeon-General J. B. HAMILTON said that Surgeon-Captain Cantlie's paper brought to mind the regretted loss of the Militia Medical Service of the army. That loss was the greatest possible blow to the army. There was a loss of men with good county connexions who did recruiting work well. No one now took their place. Only two per 1000 medical officers in the militia would have been a great help in South Africa. Every officer of a militia battalion got 4*s.* per diem with the exception of the militia medical officer, but this had now been remedied. The auxiliary branches were too scattered. The Army Medical Reserve was the greatest possible humbug which was ever started. A member could wear a uniform, but when called upon for service he would hardly leave a good practice to accept £270 per annum. In the past men could not be got to train for bearer companies. The proper thing would be to have bearer companies separate from the regiment. They must form a reserve of nurses, but that proposal made by him some years ago was sat upon by the War Office, but now they were coming round in this matter. The increase of the Royal Army Medical Corps could be done by the reconstitution of the Militia Medical Service and amalgamated and employed with them if necessary. Put them in a simple uniform and recognise their rank and position.

Surgeon-Major G. A. HUTTON made a few remarks on the number of militia officers now with the forces.

Major E. M. WILSON, C.M.G., D.S.O., said that militia officers were doing excellent work side by side with the Royal Army Medical Corps.

Surgeon-General T. F. O'DWYER, Principal Medical Officer of the Aldershot District, said that volunteer bearer companies were recognised and encouraged by the War Office. Their training was not satisfactory. There should be more attempts to train them in hospital duties; at present they were only trained in first aid and field duties. They should be encouraged to present themselves at the hospitals to be trained. It was unpleasant to say some things, but he was afraid many volunteers only looked upon training as a picnic. The volunteer brigades had five days' training but during that five days they learned nothing. Some few who had come to hospital for training liked it and took pleasure in it. Medical students were not desirable members of bearer companies. The civilian element was better than

persons who might afterwards become members of a superior branch of the service, as medical students often left when most efficient. Militia surgeons must be properly trained if they were to be introduced again.

Brigade-Surgeon Lieutenant-Colonel ELLISTON, V.D., said that brigade bearer companies carried out hospital duties in his department. Only last Tuesday he had 10 cases of heat-stroke and was able to provide an orderly for every case separately. The men were most efficient and this was the case with those whom he had sent to South Africa.

Surgeon-Captain J. CANTLIE proposed the following motion as the outcome of his paper:—

That the Navy, Army and Ambulance section request the council of the British Medical Association to appoint a committee to draw up a scheme to be forwarded to Government for the reorganisation of the medical services of the auxiliary forces on the basis of the system of the Royal Army Medical Corps and for the purpose of bringing the medical services of the regular and auxiliary forces into unison.

The motion as first proposed limited the committee to five members, but on the motion of Surgeon-General J. B. HAMILTON the limitation of the committee to any particular number was dropped and the motion was unanimously passed as above.

Surgeon-Captain J. HARPER, V.M.S.C., said that it was most difficult to get up *esprit de corps* among the men of a bearer company, and unless this was done no good could be done with the men. This he had tried to do with a good deal of success. He had now 20 very efficient men with the Yeomanry in South Africa.

Brigade-Surgeon G. KING also spoke.

THE ANNUAL MUSEUM.

(*Continued from p. 374.*)

II.—FOODS AND FOOD PRODUCTS.

No very novel departure could be noted in regard to special foods. One feature, however, consisted in the number of special milk preparations and milk products that were shown. During recent years strong endeavours on all sides have been made to separate the nutritious constituents of milk without injuring their nourishing properties. As a rule proteids undergo some change in the course of separation which affects their original food value, but in this direction certain successes obviating this deterioration have been met with, judging from the good physiological results obtained on administration of the proteid so separated.

Turning to milk itself there were several stalls devoted to modified specimens of this natural food which have been called into request by the teachings of modern physiological and bacteriological inquiry. No better examples of so-called humanised milk, sterilised milk, with and without cream, modified milk, &c., could be mentioned than those shown by the Aylesbury Dairy Company, Limited, who evidently conduct their business on strictly scientific lines, retaining for that purpose both chemical and bacteriological experts. Indeed, this company are prepared to supply pure milk foods exhibiting a composition in accordance with that which the medical practitioner may desire to prescribe. Of condensed milk there were several well-known brands and it is satisfactory to note that special care is taken to secure a maximum of cream in the concentrated product. The Anglo-Swiss Milk Company of 10, Mark-lane, London, E.C., exhibited amongst other things specimens of their Ideal milk which is unsweetened and sterilised and which contains a proportion of fat consistent with the degree of concentration. Besides concentrated milk Mr. Henri Nestlé of 48, Cannon-street, E.C., brought to the visitors' notice a food the composition of which shows it to contain all the elements necessary for the sustenance and growth of infants. It is worth while adding that this exhibit included also a condensed milk without the addition of sugar. The proportion of fat contained in the condensed milks of this firm is the maximum. Dry milk products were represented at several stalls. That of the Plasmon Syndicate, Limited, of 56, Duke-street, Grosvenor-square, W., attracted considerable interest, since Plasmon appears to be separated in such a way from milk as to leave the nutritive properties of the proteid unimpaired. Analysis shows plasmon to consist of the casein and albumin of milk together with the milk salts, the whole being soluble in water. According to Virchow, plasmon is not in any degree inferior in nourishing value to that of its equivalent of proteid in milk. It would thus appear that plasmon, which practically consists of the separated proteids of milk, loses no fraction of its nutrient value in the course of separation. Yet another milk product is "Protene" of the Protene Company, Limited, 36, Welbeck-street, S.W. This is again the proteid of milk separated by a special process. It provides an excellent adjuvant to most foods, raising to an important and certain degree their flesh-forming equivalent. The preparation has been analysed by ourselves, and the report appeared in THE LANCET of Nov. 5th, 1898 (p. 1207). Among the interesting preparations shown at this stall were some diabetic foods enriched with "protene," but practically free from carbohydrates while palatable to the taste. "Tropon" (Messrs. Arthur Reiner and Co., Dashwood House, Old Broad-street, London, E.C.), which is described as a natural pure albumin, is of course a product related to the separated proteid of milk, since it contains approximately the same proportion of nitrogen. We have described it fully in our analytical columns, but we may add that it forms an excellent adjuvant for enriching foods, more especially in regard to their nitrogenous value. On the other hand, "Somatose" of the British Somatose Co., Limited, of 165, Queen Victoria-street, London, E.C., is a digested albumin containing true proteoses. It is soluble in water and being a normal product of gastric digestion is readily assimilated. It may be used with advantage in conjunction with most foods and is well adapted for this purpose since it is practically tasteless. Somatose occurs combined with iron, a combination which admits of the administration of iron without gastric disturbance. The interesting dietetic products of Messrs. Fairchild Brothers and Foster of Snow Hill Buildings, London, E.C., are well known. On the present occasion the exhibit included "Pepsencia," an agreeable fluid with marked digestive properties owing to the presence of gastric enzymes extracted directly from the peptic glands. Again, "Panopepton" is prepared by an ingenious process whereby its constituents, derived from beef and wheat flour, are digested and therefore are presented in an easily assimilable form. This firm's peptogenic milk powder is designed for the purpose of extemporising fresh humanised milk in the home. Analyses have shown that by adding peptogenic milk powder to cows' milk in the proportions directed a product is obtained in remarkable conformity with the composition of human milk. The exhibit included pure "Pepsin" and "Trypsin" as well as "Zymine powders" for the preparation of peptonised milk. Messrs. Van Abbott and Son, of 104, Wigmore-street, Cavendish-square, London, W., presented to view an excellent assortment of foods for invalids and for diabetics and dyspeptics. It is remarkable with what success this firm has been able to prepare foods minus carbohydrates which yet are palatable and acceptable. The exhibit also included some nutritive beef biscuits which contain 20 per cent. of mosquera beef meal, with its finely divided fibre and unaltered albumin and peptones. The biscuits therefore are highly nutritive. In a kind of annexe Messrs. Callard and Co. of 65, Regent-street, London, W., occupied a stall devoted to diabetic foods and certain other prepared foods suitable for those burdened with obesity or troubled with gout and indigestion. Lastly, diabetic marmalade is an excellent acquisition amongst the special foods which have comparatively recently been introduced by this firm. Nearly opposite was an excellent assortment of specialities for invalids on the stall of Messrs. Brand and Co., Limited, of 11, Little Stanhope-street, Mayfair, London, W. Besides the essences of beef, mutton, veal, and chicken, this firm showed a meat juice which is derived from meat in the cold and therefore represents the most nourishing portion of this animal food. An excellent way of administering this meat juice is to mix it with effervescing mineral water. The assortment comprised a very valuable series of special foods of animal origin. An important novelty in the direction of foods is "Marvis," which is described as the new fish food consisting of a dry white powder with a pleasant fresh smell of fish which yields a soup of undoubtedly nourishing value and very palatable to the taste. The process of preparation is evidently conducted with care, since the product possesses a delicate flavour of the fish which is so generally spoilt by transit. This interesting departure is being undertaken by the Patent Fish Food Syndicate of Upper Greenock. A useful food adjunct is "Albene," a vegetable fat which has been carefully refined. For cooking purposes it is an excellent substitute for butter, as it is not

liable to change and is odourless and tasteless. This preparation appears to offer certain advantages of undoubted importance in the cooking of food which call for special remark. This attractive-looking fat is prepared by Messrs. Broomfield and Co. of 83, Upper Thames-street, London, E.C. Messrs. Cadbury Brothers, Limited, of Bourneville, near Birmingham, showed several of their noted preparations, the basis of which is pure cocoa made from high-class bean and containing absolutely no "additions." Whatever definition may be adopted as to what is pure cocoa Cadbury's cocoa will be certain to be placed well within the mark. Mellin's food for infants and invalids is well known, the feature of this food being that the starches derived from the several cereal grains are modified by diastase, which fact is much in favour of the digestibility of the preparation. The exhibit of the company (Mellin's Food, Limited, Marlborough Works, Stafford-street, Peckham, London, S.E.) included also some "food biscuits" containing a high proportion of soluble nutritives and a cod-liver oil emulsion finished in such a physical condition as to promote the easy absorption and assimilation of the powerful tonic and nutrient agencies which cod-liver oil is known to contain. A very interesting series of special foods was exhibited by Bovril, Limited, of 152-166, Old-street, City-road, London, E.C. These preparations are so well known as to call for little further remark. Mention, however, should be made of invalid bovril, which contains a rich proportion of unaltered albumin and is therefore a powerful nutrient and restorative for invalids; of bovril meat juice, which is expressed in the cold, an excellent sustainer; and of examples of the emergency rations and military foods used in the present campaigns. Virol, Limited, is now associated with the Bovril Company, the virol products being more strictly set apart for special medical requirement. Thus, virol is a powerful food and tonic because it is easily assimilated and is composed of rich food-forming material, red bone-marrow, &c. The excellent meat preparations of Liebig's Extract of Meat Company, of 9, Fenchurch-avenue, London, E.C., serve to adorn the stall of this company and trial prepared dishes were offered to the visitors. The Liebig Company's extract of beef has become such a household expression that the new word "Lemco" now adopted for the preparation should be generally known. Besides the ordinary extract now thus designated "Peptarnis" is worthy of notice. As our analysis has shown this consists mainly of peptone of a palatable, highly nourishing, and, of course, digestible character. It is a powerful restorative and food, ministering considerably to patients who have undergone loss in weight through enfeebled digestive conditions. An interesting series of foods was shown by the Worth's Food Syndicate, Limited, Cheltenham. These consisted of cereal foods more or less modified by cooking and thus rendered more soluble and easy of digestion. Though this preparatory process is an advantage in regard to foods for the dyspeptic or the invalid or the infant, yet it does not render, as is asserted, cereal flour suitable for the use of the diabetic, since the proportion of carbohydrate is absolutely unaltered by this process. The stall of Messrs. Scott and Bowne, Limited, of 95, 96, 97, and 98, Great Saffron-hill, London, E.C., was devoted to the exhibition of the various constituents concerned in the production of their cod-liver oil emulsion. We have already shown in our analytical columns that the composition of this emulsion is based on the known requirements of an enfeebled state of health and the oil occurs in the physical condition of an emulsion which secures its assimilation. The pioneer of all malt extracts was undoubtedly M. Hoff of Hamburg and of 29, New Bridge-street, E.C. This extract, though not concentrated, contains all the peculiar and valuable dietetic properties of barley malt. It is hardly distinguishable from ordinary stout except that it is quite free from undue acidity and possesses a rich malty taste and is much more digestible. Messrs. Keen, Robinson, and Co. of 6, Garlick-hill, Cannon-street, London, E.C., exhibited specimens of mustard preparations the excellence of which has long been associated with the name of this firm. In addition they showed their patent barley and patent groats, both of which preparations are undoubtedly nutritious, containing a maximum proportion of the flesh-forming and bone-forming constituents of barley and oats respectively. The patent barley prepared in the form of "Barlikos" affords an excellent hygienic summer drink. Cereal preparations were also the feature of the exhibit of the Infant and Invalid Co., Cereal Buildings, 54, City-road, London, E.C. The most important of these, perhaps, is the "I and I Food," prepared from the best of cereals and rendered more easy of assimilation by the conversion of some of its insoluble constituents into soluble constituents. The albuminoids and fat are in such excellent proportion as to indicate the selection of several kinds of cereal flour and a judicious mingling of them.

It must be admitted that the exhibition of foods and food products this year was not so representative in character as on previous occasions, nor were the exhibits under this section as great in number.

THE FIRST INTERNATIONAL CONGRESS OF THE MEDICAL PRESS HELD AT PARIS, JULY, 1900.

(FROM OUR SPECIAL CORRESPONDENT.)

THE NATIONALITIES REPRESENTED.

THE third and last day of the Congress proved by far the most important and critical. This was Saturday, July 28th, and as the International Congress of Deontology had concluded on the previous evening I was now able to attend. On entering the great amphitheatre of the École Pratique de Médecine I found that there were about 40 out of the 168 members of the Congress present. The British contingent consisted of one correspondent of the *British Medical Journal* and two members of the staff of THE LANCET. There were eight Germans, seven Belgians, five or six Italians, five or six Russians, three members each from Norway, the United States of America, Ecuador, and Mexico, two members each from Spain, Portugal, and Bohemia, and one member each from Switzerland, Greece, Denmark, Cuba, and Tunis. I should mention that Dr. C. D. Sutherland represented the *Indian Medical Journal*. Numerous honorary presidents had been elected: Dr. Podwyssotzki for Russia, Dr. Schonberg for Norway, Dr. Valdez for Spain, Dr. Ehlers for Denmark, and Dr. Squire Sprigge for Great Britain; but the real and ruling president was Professor Cornil, assisted by Professor Charles Richet and the general secretary, Dr. Blondel.

THE MEDICAL PRESS IN GREECE, CUBA, AND BELGIUM.

The proceedings were opened by Dr. FONSTANOS who gave a history of the medical press in Greece. He explained that previously to the formation of the Medical Society of Athens in 1836 the country was overrun by charlatans of every description. Many medical papers had been started, but the materials were so slight and the number of medical men so limited that for the most part they came to an untimely end. To-day the two principal papers were the *Medical Progress*, published in Greek, and the *Grèce Médicale*, published in French.

Dr. JUAN SANTOS FERNANDEZ followed with a description of the medical press of Cuba. The first medical paper published in the island appeared in 1840, but did not live long. In 1861 Dr. Gutierrez founded the Academy of Medical Sciences and published its *Annals*. Seven years later there appeared the *Gazette of the Medical Sciences*, which, however, was swept away by the revolution. In 1873 some new publications appeared, and of these the *Medical and Chirurgical Chronicle* survived and may now be seen at the Exhibition. In spite of the political convulsions from which the island of Cuba had so severely suffered the medical press of Cuba now worthily represented the progress of medical science.

Dr. EMILE GIBSON (Brussels) reported on the Belgian medical press and recalled the fact that the first newspaper published in Europe was issued by Abraham Verhoeven at Antwerp in 1605. As for medical papers, one of the first to appear was the *Journal de Chimie Médicale, de Pharmacie et de Matière Médicale*, issued in Belgium in 1825. But though it was a very cheap paper for want of subscribers it did not live long. To-day, on the contrary, there were so many subscribers that there were no less than 70 journals published in Belgium dealing with medicine, surgery, or hygiene, together with the reports issued by numerous polyclinics, especially at Brussels.

At the conclusion of this report Dr. PÉCHÈRE requested the Congress to protest against the gratuitous circulation of medical papers which receive a State subvention. There were

in Belgium scientific institutions which were protected by the Government, and these employed a part of the subvention they received from the State to issue journals which they sent gratuitously to medical men, thus competing against the independent medical press.—Professor CORNIL said that in France the published reports of the proceedings of learned societies which received subventions from the State were only sent to the subscribers, and such subscriptions were often higher than those paid for ordinary medical journals.—The Congress adopted a resolution condemning the subvention by the State of medical papers which competed against the other journals.

THE MEDICAL PRESS OF THE UNITED STATES AND OF GREAT BRITAIN.

Dr. C. W. FASSETT, editor of the *American Medical Journalist*, remarked that the first journal published in America was founded at the end of the last century and it contained principally articles translated from the French. Now there were 278 medical journals in the United States. The prestige of the medical press had been greatly enhanced by the Association of Medical Journalists, which was founded 15 years ago, and by the Association of Medical Publishers, which was founded in 1893. Dr. Fassett insisted that medical journals should avoid sensational news and the discussion of vague theories, and should be so written as to be understood by general practitioners who were not specialists. The American medical papers generally acknowledged quotations and were freely exchanged. Some papers would not insert advertisements of specialities unless the composition of the preparation was clearly indicated. He concluded by urging that the next International Congress of the Medical Press should be held at St. Louis in 1903, when the forthcoming great exhibition would take place.

A paper by Dr. S. SQUIRE SPRIGGE (London) on the British medical press was then read. He gave a history of the early struggles of THE LANCET and of the successful efforts of its editor to combat the nepotism prevalent at the hospitals and medical schools. The success achieved led to the foundation of many other journals, but the only paper which had survived and which could be compared by reason of its circulation and influence with THE LANCET was the *British Medical Journal*. Dr. Sprigge gave a short history of the development of this latter journal. The Congress was most interested when he described the financial situation of THE LANCET and the *British Medical Journal*, showing that the income of these papers rendered them quite independent and supplied them with means, which they employed freely, to make original researches and investigations, to depute experienced technicians to follow armies on the field, to study epidemics in all parts of the world, to analyse all sorts of food-stuffs, &c. The results of these independent and fearless investigations had largely contributed to reform the laws of the country as they affected medical education, public health, the adulteration of food, the housing of the poor, hospital accommodation, &c. Dr. Sprigge concluded by expressing the hope that charlatanism and *réclame* would be things of the past and that the medical journalist of the future would recognise but one master, the public good. The address was warmly applauded and was generally recognised as one of the most suggestive and interesting papers submitted to the Congress.

THE GERMAN MEDICAL PRESS.

Dr. SPATZ (Munich) then spoke about the German medical press. It was only towards the middle of the century that the need of such papers was felt. In the revolutionary period of 1848 Virchow had founded at Würzburg the *Medical Reformer*, but when he went to Berlin this paper collapsed. However, he soon issued his *Archiv für Pathologische Anatomie und Physiologie und für Klinische Medicin*, and from that day the development of the medical press in Germany had not ceased. In 1864 Dr. Posner founded the *Berliner Klinische Wochenschrift*, which was intended for all members of the profession throughout Germany. It was still the leading medical paper. The position of affairs in Austro-Hungary was much the same as in Germany, and the same articles, &c., were sometimes published simultaneously in both countries. The *Deutsche Medicinische Wochenschrift* first started the idea of forming an Association of the German Medical Press, and the rules of this association were very similar to those of the present Congress. The result had been a great improvement in the tone of the medical press of Germany.

THE REPRODUCTION OF SCIENTIFIC ILLUSTRATIONS.

This terminated the reports on the medical press of different countries and M. ALCAN then read his paper on the right of reproducing illustrations which I have already summarised.

In the discussion that ensued Dr. MARCEL BAUDOUIN argued that a drawing in a scientific publication should be considered as so much type. It was not a work of art; it was a hieroglyphic such as the Egyptians employed and the Chinese still use, and by which the author was better able to convey his meaning. As type could be reproduced so should the drawing or photograph which was published instead of words in type. With regard, for instance, to intestinal sutures there were some 600 drawings that had been published. Would the author of a book on the subject have to apply to the owners of these 600 illustrations? By slightly altering each design he could utilise them all and not infringe the law, but sometimes it was found that by altering the drawing it no longer agreed with the text. Then in a later edition the text was altered to make it agree with the drawing, so that in the end both drawing and text were false and incorrect. He thought that there should be greater latitude with regard to the reproduction of scientific illustrations.

Dr. REGNAULT remarked that as copyright lasted 50 years it sometimes happened that the author was dead and that his family could not be found or that the publisher was bankrupt and that his blocks and rights had been sold to no one knew whom. Publishers, he thought, should form an association like that of the society of authors so that there might be one single central place where all applications and payments should be made for the right to reproduce.

Professor RICHET remarked that the question was most complex because there could be no exact demarcation between a scientific and an artistic drawing. The latter was protected by the law of copyright. All they could do was to urge that, for the sake of scientific education, it was necessary to reproduce scientific drawings and leave to another Congress the task of formulating a scheme to facilitate such reproductions.

Dr. POSNER (Berlin) proposed to nominate a committee of three Parisian members to discuss this question with publishers, medical men, and legislators, and to study generally the question of literary property from the medical point of view. This committee would consist of Dr. de Maurens, Dr. Marcel Baudouin, and Dr. Blondel, who were well acquainted with the subject and held different opinions. This committee was thereupon elected.

THE RIGHT OF TRANSLATION AND OF REPLY.

Dr. PODWYSSOTZKI, on behalf of the Russian members, urged that the copyright in regard to papers published in periodicals should, so far as the translation of such papers was concerned, be limited to six years. Dr. JAYLE and Dr. PISTRE then reported on the right to reply. According to Article 13 of the Law of 1881 all persons mentioned by name had an unlimited right of reply. This was thought excessive, for replies might be converted into mere self-advertisements. The editor should be able to exercise his discretion; but a person whose reply had not been inserted might have the right to appeal to a tribunal which would judge whether the editor had acted unfairly.

Dr. J. NOIR then read a short paper enforcing the absolute necessity of forming an international association of the medical press, and the morning sitting concluded.

RÉCLAMES OR PUFFS.

It was at the very last sitting that the Congress ventured to tread on really delicate ground. First, Dr. G. LEVY complained that obvious puffs were written by persons who declared themselves to be medical men but gave fictitious names, thus shielding their reputation. He brought forward a motion stating

> That when the title "Doctor" was employed it should only be followed by the name inscribed on the diploma.

The Congress, however, thought that though this might be a good measure to prevent puffs, medical men who wrote articles that were not puffs were justified, so as to avoid self-advertisement, in adopting fictitious names. The discussion finally dropped without the adoption of any resolution.

Dr. ARCHAMBAND then moved

> That *réclames* and non-medical advertisements might be published in medical papers.

Without *réclames* many papers could not live and though a

réclame appeared as an article in the body of the paper everyone knew that it was paid for and was simply another form of advertisement.

MR. ADOLPHE SMITH (London) energetically protested against this opinion. If *réclames* did not deceive anyone why were they paid for at a much higher rate than ordinary advertisements? Then it was not so much a matter of the publicity given in the one issue of the paper as the fact that what the paper had said might be reproduced and quoted on millions of labels and circulars. So far, however, as *bonâfide* advertisements were concerned there was no reason why a tailor or a coachbuilder should not advertise in a medical paper as well as a wholesale druggist, but all advertisements should be carefully supervised so that none should appear that were opposed to the ethics or interests of the profession.

The Congress voted by a large majority against the insertion of *réclames*.

FOUNDATION OF THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

Next came the report of Dr. LABORDE, concluding in favour of forming an International Association of the Medical Press, which was taken as read and which I have already summarised. Dr. POSNER (Berlin) argued that there should be an association of the medical press in each nation which should participate in the international congresses and that these congresses should be held frequently.

Dr. BLONDEL remarked that the local conditions of the various countries differed materially and that the Congress should first decide on the opportuneness of creating an international association. As for the statutes drawn up by Dr. Laborde they could only be considered as a scheme which it was not now necessary to discuss.

Dr. JAYLE, however, insisted that it was all very well to found an association, but they must first of all know who were going to be included in the association. Dr. Laborde, in his report, had said that the association should consist of directors, editors, and general secretaries of medical papers. Such a limited definition would have to be set aside before the proposal to form an association could be accepted, and there must instead be a distinct assertion that medical journalists were admissible.

Then followed a lengthy and at times a somewhat confused and disorderly discussion which I will not attempt to report. I will, however, try to explain the main points at issue. First we find here a good illustration of the fact that papers prepared for an international congress should be written in quite a different manner to that which is customary for a national congress. Internationally the same term has a very different meaning. In England the term "director" might be taken to mean the business manager who, as a rule, is neither a journalist nor a medical man. In France many medical papers belong to medical men who are at once managers, editors, and chief contributors of their own papers. Then the term "secretary" has no journalistic meaning in England, while in France it often means the sub-editor. On the other hand, our English word "editor" in France means publisher. These terms, therefore, in an international congress need explanation. It was, moreover, objected that if all medical journalists were admitted there were some 30,000 of them in France alone. Of course this was mere playing with words. A practitioner who once or twice in his life sends an account of a case that has come under his observation to a medical paper, for which contribution as a rule he is not even paid, cannot consider himself a journalist. As for the danger of the congresses being swamped by journalists, it is evident that no journalist would incur the expense of attending such congresses unless at least a considerable portion of his income depended on his pen. On the other hand, the proprietors and publishers of papers could more readily find the means of being present. Practically the discussion that took place was based on the question whether the proposed international association should really represent the medical press as a whole and all the interests involved, or be only an association of the owners of medical papers.—Professor RICHET protested that there was no desire to exclude journalists, but it was to be an association of employers and employed, whose interests were more intimately linked together than was generally supposed.—Dr. BLONDEL cordially endorsed this view, but wanted the details to be settled by a committee to be appointed or by future congresses.—Dr. JAYLE, on the contrary, insisted that the principle of the admission of journalists must be emphatically proclaimed now at once. Finally, Professor CORNIL put Dr. Blondel's proposals to the vote. They are worded as follows:—

> The statutes of this international association shall be submitted to the next International Congress of the Medical Press. They shall be prepared by an international committee appointed for that purpose. The members of this committee shall be elected in each country which possesses an association of the medical press convoked for that purpose. The committee of the present Congress shall act temporarily as the intermediary between the various sectional groups that have to constitute the definite international committee.

As this motion did not speak of journalists 13 members voted against it and 25 in its favour. But now Dr. JAYLE maintained that his proposal did not run counter to the resolution which had been carried and he moved it as an addendum.—Professor CORNIL agreed and thought that the Congress might now vote in favour of admitting medical journalists as members of the proposed International Association of the Medical Press, and this was adopted unanimously.

It was then decided that the second Congress should meet next year in Brussels. This with the usual vote of thanks completed the proceedings and the Congress separated, well satisfied at having established an International Association of the Medical Press. The general secretary, Dr. R. Blondel, has worked very hard to bring about this result and was naturally and warmly congratulated. In the evening the members of the Congress met at the Auberge des Nations in the Old Paris Street of the Universal Exhibition. The banquet was presided over by Professor Virchow of Berlin, and many toasts were drunk and great cordiality prevailed.

Paris, August 5th.

HEALTH CONGRESS IN ABERDEEN.

THE annual congress under the auspices of the Royal Institute of Public Health took place this year in Aberdeen. The joint Town and County Hall, which was used for the issue of tickets, was opened on Wednesday, August 1st, but the actual business did not commence till August 2nd. The general and sectional meetings were held in Marischal College buildings and extended to August 7th. Between 800 and 900 delegates from various sanitary and municipal authorities in the United Kingdom attended.

THURSDAY, AUGUST 2ND.

The general inaugural address was delivered in the Mitchell Hall by the President of the Congress, the Earl of ABERDEEN, Lord Provost FLEMING occupying the chair. Lord ABERDEEN, after alluding to the assassination of King Humbert and the death of the Duke of Saxe-Coburg and Gotha, dwelt upon the improvements brought about by sanitary reformers and called particular attention to the success of the district nursing system. At a later hour the presidents of the various sections delivered their opening addresses.

In the Section of Preventive Medicine and Vital Statistics the President, Professor W. J. R. SIMPSON (King's College, London), chose as his subject Administration and Research in Preventive Medicine. Professor Simpson, after urging the necessity of establishing a special sanitary service for India and an Imperial or Colonial sanitary service generally, adverted to the sanitary changes in Aberdeen, of which city before proceeding to Calcutta, he was medical officer of health. He then pointed out that in the bacteriological branch of preventive medicine Great Britain was not, as in other branches, in the first rank, and the absence, he said, of well-endowed laboratories for scientific research, either connected with their universities or colleges or as separate institutions, was a fatal defect in their otherwise excellent sanitary organisation. He then referred to the preparation of curative and prophylactic serums and said that investigations into comparative parasitology had also contributed much to preventive medicine and had revolutionised their ideas of malaria. The discovery of the parasite of malaria and its developmental stages in the mosquito permitted them to brush aside all vague generalities concerning the disease and the conditions which produced it. Professor Simpson concluded by referring to the question of sanitary supervision in the South African war. While expressing respect for the magnificent work done by the Royal Army Medical Corps, he said there was evidently pressure when two medical officers were required to do the work of four. This defect in their

system should be remedied at once, especially in view of the large number of troops going to China who would be exposed to much worse conditions than those in South Africa. A specialisation in the function of different departments of the Army Medical Service was required, and it was certain that without a special sanitary service disease in times of stress would not be prevented.—In the same section a paper by Dr. C. KILLICK MILLARD (medical officer of health of Burton-on-Trent) on the Notification of Measles was read in the absence of the writer and gave rise to a discussion which was taken part in by Professor W. J. R. SIMPSON, Sir CHARLES A. CAMERON, C.B. (executive sanitary officer, Dublin), and others.

The Section of Bacteriology and Comparative Pathology met in the Pathology Class Room under the presidency of Professor D. J. HAMILTON (Aberdeen University), whose opening address was on Recent Developments in Bacteriology and on the danger of spreading disease by vehicles of transport. As to tuberculosis they were all, he stated, agreed that there must exist a close relationship between the bacillus of leprosy and that of tubercle. With respect to typhoid fever Professor Hamilton remarked that the difficulty of recognising the bacillus in water still remained almost insuperable and that probably the method adopted by Hankin was the most to be depended upon for reliable results in the absence of the bacillus coli. Having referred to horse-sickness he then touched on the subject of cancer. As the evidence at present stood he was unable to form an opinion as to the parasitic theory. Cancer was a very common disease in Queensland, and the popular belief, supported by expert evidence, was that it was derived from cancerous cattle, the flesh of which was consumed in a half-cooked condition. Professor Hamilton then went on to protest against the apathy of railway companies in the matter of adopting precautionary measures against contamination and dust contagion from railway carriages. He urged the necessity for legislation on this matter, and at the same time he deplored the misery which was occasioned through the defective sanitation of schools and the evils caused by the condition of public resorts, which were rendered unhealthy through the neglect of the local authorities.—A short discussion followed, after which Professor E. F. TREVELYAN (Leeds) made some remarks on Pig Tuberculosis and showed specimens.—Dr. ALLAN MACFADYEN (director of the Jenner Institute of Preventive Medicine, London) also read a paper on the Detection of Tubercle Bacilli in Dairy Products.

In the Section of Chemistry and Meteorology there was but a small attendance. In his opening address Professor C. HUNTER STEWART (Edinburgh) devoted his remarks mainly to periodical recurrences of epidemic diseases and the meteorological conditions to which these had been attributed. After discussing the question of the carrying of micro-organisms in the air on particles of sand he pointed out the difference in the incidence of summer diarrhœa in the west of Scotland as compared with the east of that country, and alluded to the apparent connexion between the large quantity of carbonic acid in the ground air and typhoid fever. In conclusion he referred to the amount of organic matter contained in made-up soils, and urged the desirability of further investigation being made so as to ensure that the land was properly purified before being used as sites for buildings.—A paper prepared by Mr. EDWARD RUSSELL, F.I.C. (London), and Dr. A. E. PORTER (London) on an Inquiry into the Chemical and Bacteriological Condition of the Air in Board Schools was then read and gave rise to a discussion in which the artificial method of ventilation was generally condemned.—Mr. THOMAS JAMIESON, F.I.C. (city analyst of Aberdeen), then read a paper on the Effect of Organic Matter in Water on Health.

In opening the Section of Architecture and Engineering the President, Mr. JOHN HONEYMAN, R.S.A. (Glasgow), observed with respect to the construction of dwelling-houses that a point which was very much overlooked was the necessity of proper ventilation. He referred to the lack in cities of cheap houses for the poor.—A paper was read by Mr. JAMES SOUTTAR, F.R.I.B.A. (Aberdeen), on Architecture and Hygiene.—In a paper on the Architecture of the Twentieth Century Mr. BANISTER F. FLETCHER, A.R.I.B.A. (London), contended that public health would be the watchword of the new century and that architecture was the science of public health in its best and broadest sense. People would probably live to a great extent in the country, but he thought the appointment of a Minister of Public Health was an absolute necessity.

In the Section of Municipal and Parliamentary Hygiene the President, Dr. R. FARQUHARSON, M.P., delivered an address dealing with the general subject of municipal and Parliamentary hygiene. He thought that county councils had done their work well and that they should be allowed more freedom in framing by-laws regulating the health, comfort, convenience, and happiness of the people. He was of opinion that the expenses of county councillors should be paid. Resolutions in favour of the national registration of plumbers were then adopted, after which a paper was read by Mr. Fyfe, F.R.S. Edin., on Legal Stumbling-Blocks in the Housing Question.

In the afternoon, in splendid weather, an enjoyable garden party was held at Richmondhill, the residence of Lord Provost Fleming, and in the evening the official reception by the Lord Provost and Town Council took place in the Mitchell Hall and picture gallery at Marischal College, the apartments of the Students' Union being used as refreshment rooms. There was a very large and brilliant assemblage.

FRIDAY, AUGUST 3RD.

The annual meeting of the Association of Port Sanitary Authorities was held in the forenoon, when the office-bearers and council were elected. Reference was made to the recent epidemic of small-pox in Hull, and a resolution that the Local Government Board be asked to furnish forthwith to the officials of port sanitary authorities such information as it might receive as to the existence of infectious diseases, and that a deputation should wait on the President of the Local Government Board, was adopted. The tenth annual meeting of the registered plumbers in Aberdeenshire, Kincardineshire, and Banffshire was held in the evening, Professor M. HAY (Aberdeen), the President, being in the chair. The yearly report was satisfactory.

In the Section of Preventive Medicine a discussion, opened by Dr. E. W. HOPE (medical officer of health of Liverpool), took place on Municipal Laboratories as part of Health Organisations, and the following resolutions were adopted:—

That it is desirable that facilities should be acquired by sanitary authorities for bacteriological and other cognate work.

That it is desirable that the bacteriological diagnosis of disease should only be made by bacteriologists who are registered medical practitioners.

A discussion (commenced on the previous day) on the question of the notification of measles was continued and concluded. In connexion with the tuberculosis problem the following papers were read:—(1) Tuberculous Milk—Researches and Results, by Professor SHERIDAN DELÉPINE (Manchester), which was read in the absence of the writer; (2) The Dundee Sanatorium for Consumptives, by Dr. C. TEMPLEMAN (medical officer of health of Dundee); and (3) The Position of General Hospitals in Relation to the Sanatorium Treatment of Tuberculosis, by Dr. NOEL BARDSWELL (Surbiton). A brief discussion ensued, but no resolution was adopted. In a paper on Summer Diarrhœa, its Cause and Prevention, Dr. WILLIAM RUSSELL (Paisley) dwelt on the necessity of getting rid of all forms of putrefaction.

In the Section of Bacteriology and Comparative Pathology Dr. GEORGE DEAN (Jenner Institute of Preventive Medicine, London) gave a demonstration of Toxins and Antitoxins, illustrated by lantern slides, fully describing the methods of testing. The sera obtained by the use in immunising animals of living microbes, he said, were much less powerful than the antitoxic sera, but the method had been employed in such diseases as septicæmia, cholera, typhoid fever, and bubonic plague. Various theories as to the method of production of antitoxin in the animal body were touched on. Reference was made to some of the remarkable recent developments in the field of immunity, such as the production in the blood serum of animals treated with injections of rennet of a substance which neutralised the curdling of the rennet ferment on milk. Much of the work possessed at present only theoretical interest, but such investigations frequently paved the way for the discovery of practical methods of treatment and prevention of accident.—A paper by Dr. R. T. HEWLETT, (Jenner Institute of Preventive Medicine, London) was read in the absence of the writer, the subject being the Thermal Death-point of the Tubercle Bacillus. The general results of the writer's experiments were summed up as follows: Non-virulent laboratory cultures were destroyed by

an exposure to 60° C. for 10 minutes, while a temperature of 65° C. acting for 15 minutes destroyed the infective properties of tuberculous sputum. Tuberculous milk heated to 65° C. for 30 minutes lost its infective power, and tuberculous milk heated to from 65° to 68° C. for 20 minutes in the Allenbury pasteuriser likewise lost its infective power. In all probability pasteurisation, in which the milk is retained at a temperature of 65° C. for not less than 20 minutes, was efficient.—In the discussion Mr. B. BROWNING (medical officer of health of Weymouth) called attention to the fact that the laity were exposed to the danger of contracting tuberculous, enteric, and cancerous affections by receiving the sacramental wine in a cup, and he suggested to the clergy a modification of their ritual.—Papers were afterwards read upon the Serum Diagnosis of Typhoid Fever and the Bacillus Coli in Drinking Water.

In the Section of Chemistry and Meteorology the most interest was taken in a paper by Mr. JAMES HENDRICK, F.I.C. (Aberdeen), on the Question of Distillery Refuse, and in one by Dr. A. M. COWIE (Dufftown) on the Purification of Burnt Ale by the Biological Method.—Two papers on the Treatment of Sewage were also read, as was one by Dr. C. MUNRO HECTOR (Sheffield) and Dr. J. ROBERTSON (medical officer of health of Sheffield), entitled "The Estimation of the Germicidal Values of the Common Disinfectants."

In the Section of Architecture and Engineering Mr. R. MORHAM (city architect of Edinburgh) contributed a paper entitled "Suggestions on Fever Hospital Construction," in which he drew attention to the need of ample provision for fever nurses, and exhibited a block plan of the hospital now in course of erection for the city of Edinburgh.—Councillor COOPER (Aberdeen) read a paper on an Ideal Workman's Cottage, and a discussion followed on the difficulties of the problem of the housing of workmen in cities.—Papers were also read on House Drainage and on the Dangers to Public Health from Railway Carriages and Stations. The section recommended the Congress to call the attention of the various railway companies to the necessity of more efficient cleansing and the more sanitary construction of railway carriages, and also the conveniences at the smaller stations, having regard to the question of the possibility of infection to passengers.

In the Section of Municipal and Parliamentary Hygiene the Earl of ABERDEEN read a paper sent in by the Countess of ABERDEEN on Women as Members of Sanitary Authorities. At the suggestion of the section he promised to introduce in the House of Lords a Bill to amend the new Local Government Act for London so as to permit of women being elected, as before, as members of the local sanitary authority.—A paper by Dr. A. T. BEVERIDGE (Aberdeen) on Sanitation and Economics gave rise to a discussion on the advisability of working men becoming their own landlords.—Councillor DUNLOP (Glasgow) contributed a Plea for More Air Space in and Around Town Dwellings and a resolution was passed—

That this conference approves that the standard of air space for dwellers in cities and large towns be raised to 500 cubic feet for every adult and to 250 cubic feet for each child under 10 years of age.

The corporation of Aberdeen entertained the delegates to luncheon in the Music Hall, 1000 guests being present, and afterwards to a garden party in Duthie Park, where the company numbered 1200.

On Saturday, August 4th, several excursions were arranged for members of the Congress, the largest being to Balmoral, where by order of the Queen the Castle grounds were open to the visitors. The party which went to Finzean, near Banchory, were entertained to luncheon by Dr. R. Farquharson, M.P. for West Aberdeenshire.—On Sunday, August 5th, the delegates walked in procession to the West Parish Church, where the Rev. Dr. MARSHALL LANG (Principal of Aberdeen University) was preacher. There were also special services in St. Paul's (Episcopal) Church.

MONDAY, AUGUST 6TH.

Professor PERCY F. FRANKLAND, F.R.S., gave an interesting address on the subject of Recent Developments in the Purification of Sewage. The lecturer said that it was a matter for humiliation that in this country there was no proper organisation for carrying out experiments on an extensive scale. In this connexion he urged the establishment of an Imperial Board of Health.

At the annual meeting of sanitary inspectors Dr. A. T. GORDON BEVERIDGE (Aberdeen) was called to the chair.—Mr. PETER FYFE, F.R.S.Edin. (chief sanitary inspector, Glasgow), delivered the presidential address on Sanitary Inspectors and the Housing of the Poor.—Mr. GEORGE MACKAY (county sanitary inspector of Perth) read a paper on Improvement in Public Health in Scotland.—Miss MARY M. PATERSON, H.M. Inspector of Factories, then read a paper on Modern Workshops, dwelling on the necessity of cubic space and ventilation.

A conference of veterinary surgeons was thinly attended. Mr. W. WILLIAMS, F.R.C.V.S., principal of the New Veterinary College, Edinburgh, presided, and addressed the meeting on Certain Peculiarities, or rather Vagaries, in the Life-history of Microbes.

A conference of medical officers of health was held, Dr. J. C. MCVAIL (medical officer of health for Stirling and Dumbarton) presiding. The principal subject under discussion was the working of the English Vaccination Act.—Dr. FARQUHARSON, M.P., said he believed that the "conscientious objector" was a humbug and a manufactured product.

The Congress dinner was held in the evening.

TUESDAY, AUGUST 7TH.

To day, at an adjourned conference of veterinary surgeons, a paper was read by Mr. JAMES MCPHAIL (Edinburgh) on Pseudo-Tuberculosis.

The annual meeting of the Royal Institute of Public Health took place and the usual reports were adopted.

Dr. PATRICK MANSON, medical adviser to the Colonial Office, delivered an interesting address on Malaria: a Sanitary Problem, Lord ABERDEEN presiding. The members adjourned to the Pathological class-room, Marischal College, to view a number of slides illustrating the malarial parasite.

In the Section of Preventive Medicine, Dr. G. DEAN, who is in charge of the farm where the antitoxin is manufactured by the Jenner Institute of Preventive Medicine, delivered an address on the Seasonal Fluctuation in the Demand for Antitoxin. Other papers were read.

In the Section of Municipal and Parliamentary Hygiene, papers were read on Slum Property, the Necessity of Efficient Inspection of Meat and the Expediency of Erecting Compulsory Clearing Houses.

In the Section of Chemistry and Meteorology, a paper by Mr. R. GLEGG, B.Sc., and Mr. JAMES HENDRICK, B.Sc., was read on the subject of the Diurnal Variation in the Fat of Cow's Milk.

The proceedings closed with the general meeting of Congress, when various resolutions were adopted.

THE WAR IN SOUTH AFRICA.

THE IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

Since I wrote to you last I have been up to Mafeking to fetch Major Mullins who is now safely housed in one of our officers' wards here. He was so badly wounded in the backbone that we had to get a truck with sufficiently wide doors to admit the bedstead complete, and the guard's van was the only carriage that would meet the case. We also brought down Mr. Hands, the *Daily Mail* correspondent, who, too, had been wounded in the relief at the same time, so that there is not a seriously sick or wounded man now left in Mafeking. I had been suffering from a poisoned finger and the rest from work enabled it to get quite well. At the same time the trip afforded a most interesting experience. The "dug-outs" or "bomb-proof shelters" have most of them disappeared already, for their roofs were generally made of railway metals which had to be restored to their proper places before the line could be reopened. Fuel is still very scarce up there, the locomotives having to depend on wood of which they draw a huge truckful after them. Of food there is plenty and of danger there is none, though there was indeed a slight skirmish only seven miles out of Mafeking while I was there, and the passengers by the train after ours saw a couple of shells bursting not long before they reached Mafeking. There seem to be various small commandoes of the enemy moving about even in parts of the country that have for many weeks been considered disarmed; there is one such between us and Kimberley,

and another between Norval's Pont and Naauwpoort, a slight skirmish taking place the other day at the former place. But in all other respects little change has as yet come over Mafeking since it was relieved.

It is most interesting to be taken over the forts and trenches by one of those who was responsible for their making and who knows the why and wherefore of each move and of each fight. The "Brickfields" in particular might be described as a chessboard on which a most clever and spirited game had been played for several months for great stakes. There, as I daresay you know, our trenches were pushed up to within 60 yards of the Boer trenches before these were evacuated, and then our men sapped on until the two trenches joined and they could pass all the way under cover from one of our forts to one made by the Boers. This they found was deserted, but luckily before occupying it they stumbled on an electric fuse wire and cut it, and then found 250 lbs. of dynamite which was meant for their destruction. This was 1350 yards from the market square and 800 yards from the main Boer position. They were hard up in the town for some wire of this sort, so they picked up the cut end and began to haul it in before the Boers, who were ineffectually pressing the button which made the connexion which was to have blown up the fort, discovered what was happening. A tug-of-war ensued and our men got 750 yards and the Boers only 50.

"Trophies" and mementoes of the siege of all sorts are in great demand both at Mafeking itself and also down country. Siege stamps, paper money, shells, and bullets occupy the most prominent place in many people's minds, and realise most extraordinarily high prices; but Professor Chiene, who was visiting us not long ago, is the possessor of one of the most interesting mementoes in the shape of the concertina whereby, in conjunction with the noise made by a native dancing on a sheet of corrugated iron, the Boers were tempted to put up their heads when only separated from our sharpshooters by the 60 yards already mentioned. Many Boers paid for their curiosity with their lives, for the moment anything showed above the sandbags it got a bullet through it; even a cartridge case, which is only two and a quarter inches by less than half an inch, left by chance on the top of the sandbags got two bullets put through it. I dare say you know that there are some field-glasses made on such an arrangement of angles and prisms that by their aid a man in a trench can spy over the top without exposing his head. I saw one such glass which had had a Mauser bullet bang through its lens and the bullet also went through the hat of the person who was using it.

The Stadt, or native compound, is another very interesting part of the besieged area to visit. It stands separated from the town by a small river bed. The force which occupied this quarter of the outer and inner circles of forts was usually composed almost entirely of natives. Twice at least this native Stadt was the object of hot attack. On the first occasion the Boers broke through the outer circle of forts which surround the town at a radius of from about half a mile to one mile, but were repulsed at the inner forts which closely encircle the town. On the second occasion (May 12th), headed by Eloff, the Boers, as you know, got right into the Stadt and set on fire many of the native huts. They pushed on and got almost to the railway station. Reinforcements of white troops then got round behind them and cut off their retreat. Here many of them surrendered towards nightfall, but of those who tried to retrace their steps through the Stadt, it is said that some were thrown by the natives into the burning houses.

Both at Mafeking and at Ladysmith the besieged forces seem to have placed a very modest estimate upon the splendid services which they themselves had yielded. An officer who was in Ladysmith said to me the other day: "When the relief force came in we were surprised to find that we were heroes—we thought we had all been doing very badly." One whom I saw at Mafeking who on the testimony of his colleagues seemed to have taken a most active part in the fighting and, indeed, in the most dangerous parts of it, said: "Our success in keeping the enemy out is due not so much to what we did as to what the enemy failed to do."

Both the convent and the hospital were, as you know, severely damaged by shell fire. The former, which is the only two-storeyed building in the town and therefore afforded a tempting target from the Boer lines, might almost be described as a ruin, but the latter is the one building in the town which has already been repaired.

Throughout the siege they seem to have been remarkably free from sickness, despite the fact that Mafeking is as innocent as any other town in South Africa of any attempt at sanitation.

I am glad to say that sickness among the staff here has materially diminished of late. Only 21 of our orderlies are "in hospital" and they are all doing well, and so are the two medical men who are convalescent from enteric fever and a couple of sisters who are off duty through slight ailments. This most satisfactory abatement seems to be general throughout the country. The epidemic of enteric fever continues to decrease rapidly.

Colonel A. T. Sloggett, R.A.M.C., who is just back from Pretoria, whither he had to go to make arrangements for the new advanced branch of the Yeomanry Hospital, the first instalment of which is due at Cape Town to-morrow, says that there are only 400 sick and wounded in that city and only 1600 in Bloemfontein, instead of the 5000 who were there when I was there six weeks ago. He says that there are two whole general hospitals now in Kroonstad besides the Glasgow Hospital of 300 beds; but there, as at Kimberley, where I visited the hospitals on my way to Mafeking, and everywhere else that the hospital trains ply to, the report is extremely favourable, and there are vacant beds everywhere now. The difficulty of transport, however, continues. Between Kroonstad and Johannesburg it is even greater than it was, owing of course to the depredations of Christian de Wet.

We have taken in nearly 250 patients this week, including one trainload from Wynberg, half sick and half wounded and one trainload of convalescents from Pretoria, and about, 50 Yeomanry, including a batch of the Warwicks and a batch from Kimberley.

From talking to Boer prisoners it is evident that their leaders are still trying to buoy them up with the most gross misrepresentations. One said that his commando had been told that 6,000,000 Russians had been landed in Cape Town and that Cronje and all of his men had escaped from St. Helena and were invading the Cape. They say that the Boers have changed the name they apply to our troops from "rooineks" to "locusts."

On my way through Kimberley the other day I ordered and brought down with me on the return journey a marble cross for the head of the late Dr. R. T. FitzHugh's grave. By-the-bye, about a week ago the Coadjutor Bishop of Cape Town paid us a 24 hours' visit for the purpose firstly of dedicating our burial-ground, and secondly, of holding a confirmation service for which some eight or nine candidates had been prepared by our clergyman, Mr. Blackbourne.

We have experienced a day or two of really horrible weather here lately. Tremendously high winds, very cold indeed and bearing along clouds of dust and even of shingle which felt at times almost like a flight of small shot. Several of the larger tents, including the sisters' dining tent (poor souls!), were blown down, and it has been impossible yet to put them up again owing to the continued high wind. None of the tortoise- or bell-tents have been blown down, nor of course, were the huts damaged, but everything and everybody have been covered with dust.

Deelfontein, July 16th.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Liverpool Sanitary District.—Dr. E. W. Hope is looking anxiously forward to the results of the 1901 Census to ascertain the precise position of Liverpool with regard to her several death- and disease-rates. At the last census the experience of Liverpool was peculiarly unfortunate in that the discrepancy between the actual and estimated population was no less than 100,000. Small wonder that under these circumstances the medical officer of health pleads for a quinquennial census. For 1899 the estimated population of the city was 668,645, the birth-rate being 33·6 and the death-rate 24·3 per 1000. The highest district birth-rate was 44·1 and the lowest 20·1 per 1000, while as regards the district death-rate the highest was 38·7 and the lowest 10·1 per 1000. In connexion with the deaths it is an interesting point, and one

worthy of study, that the deaths which take place in workhouses and hospitals are greater in Liverpool in relation to population than is the case in any other city of England. The table below gives the rates for the four largest towns.

	1895.	1896.	1897.	1898.	1899.	Average.
Birmingham ...	16·8 ...	14·9 ...	14·0 ...	15·3 ...	16·1 ...	15·4
Leeds...	10·9 ...	11·9 ...	10·8 ...	11·8 ...	12·4 ...	11·6
Manchester ...	19·2 ...	19·7 ...	20·0 ...	19·0 ...	19·7 ...	19·5
Liverpool	20·7 ...	23·8 ...	23·1 ...	24·7 ...	25·3 ...	23·5

Small-pox was introduced into Liverpool on six occasions during 1899, but, owing to the precautions taken the disease failed to spread. Of typhus fever 70 cases were brought to the notice of the sanitary authority, and of these 13 died. Dr. Hope furnishes an interesting diagram in his report showing how the disease spreads, and the importance of keeping those who have been exposed to infection under rigid observation. In discussing measles Dr. Hope deplores the fact that the deaths from this disease show no evidence of decline, and he compares the behaviour of this disease with that of such diseases as typhus fever and scarlet fever, to both of which isolation has been applied. Dr. Hope is apparently of opinion that isolation would tend to materially diminish the prevalence both of measles and whooping-cough, and in respect of the latter disease he furnishes a table showing in what manner the disease may be considered as spreading. Under the heading of Alcoholism the effect of drink upon the survival of children born of alcoholic mothers is well brought out, and it is related that out of 600 children born of inebriate mothers no less than 335 died before their second birthday. The female sanitary inspectors are making their influence felt in Liverpool, and during 1899 three additional officers were permanently added to the staff. These officers do excellent work in the direction of educating the public in some of the principles of preventive medicine. Open spaces are being provided in Liverpool by the conversion of old burial-grounds into gardens, and Dr. Hope furnishes photographs showing (*a*) converted churchyards, and (*b*) churchyards closed against further interment. As an instance of the immense overcrowding of bodies in a given grave he introduces the photograph of a gravestone completely covered with separate inscriptions indicating the persons who have been buried beneath the stone in question. Considerable space is devoted in the report before us to the subject of preservatives and colouring matter in food. It is a very interesting and important fact that the addition of such preservatives as formalin or boric acid to milk is a relatively uncommon practice in Liverpool, and, as Dr. Hope points out, it is clear that their use is not urgently called for provided proper cleanliness and cooling are practised. Dr. Hope also refers to the experiments carried out by Dr. H. E. Annett at Liverpool upon kittens, in which the evidence pointed strongly in the direction of relatively small amounts being detrimental to these animals. The tanyards of Liverpool proved during 1899 to be invaded by anthrax, and four deaths from this disease occurred during the year. The bacillus of the disease was found in the gloves used by the workmen and also in the vats used for macerating the hides. In connexion with the summer diarrhœa of infants the milk with which certain of them were being fed had been examined bacteriologically. Many putrefactive organisms were detected, and among them the bacillus enteritidis sporogenes. Some interesting observations with regard to the presence of the tubercle bacillus in milk were made by Professor R. W. Boyce. In railway-borne milk tubercle was found in 8·1 per cent. of the samples, but in the town milk only 0·6 per cent. was found to be tuberculous. Several specimens of condensed milk were not sterile, organisms being found therein; so, too, bacteria were detected in samples of "sterilised milk." No pathogenic organisms were detected in the specimens of jam examined, and many samples were quite sterile. Professor Boyce evidently views the practice of adding preservatives to jam as likely to lessen its digestibility. Certain tinned meats contained numerous organisms, but apparently none of the shellfish examined on this occasion contained disease-producing organisms. Samples of drinking-water were examined at frequent intervals, but the average number of bacteria was always below Koch's standard of 100 per cubic centimetre. The corporation of Liverpool is steadily demolishing some of the worst slum property, which has been for years past identified with disease and misery, and with death-rates of between 40 to 50 per 1000; in a word, the localities where, since statistics have been collected, disease has been in a sense endemic. Of some of this miserable property and of its pale-faced inhabitants Dr. Hope supplies photographs, while by way of contrast he adds a picture of some of the buildings erected by the corporation. Whether or not the occupants of the slums destroyed find a home in the model dwellings there must be at least some advantage in sweeping the worst slums out of existence.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6889 births and 4564 deaths were registered during the week ending August 4th. The annual rate of mortality in these towns, which had increased from 14·5 to 19·4 per 1000 in the four preceding weeks, further rose to 20·5 last week. In London the rate was 20·1 per 1000, while it averaged 20·8 in the 32 provincial towns. The lowest death-rates in these towns were 8·0 in Burnley, 9·4 in Cardiff, 11·1 in Wolverhampton, and 11·4 in Halifax; the highest rates were 26·2 in West Ham, 30·0 in Salford, 33·5 in Sheffield, and 34·6 in Liverpool. The 4564 deaths in these towns included 1329 which were referred to the principal zymotic diseases, against 427, 555, and 944 in the two preceding weeks; of these, 1040 resulted from diarrhœa, 88 from whooping-cough, 79 from measles, 70 from diphtheria, 26 from scarlet fever, 25 from "fever" (principally enteric), and one from small-pox. The lowest death-rates from these diseases were recorded in Cardiff, Oldham, Burnley, Halifax, and Gateshead; and the highest rates in West Ham, Liverpool, Salford, Preston, and Sheffield. The greatest mortality from measles occurred in Brighton, Derby, Huddersfield, Leeds, and Sunderland; from whooping-cough in West Ham; from "fever" in Portsmouth; and from diarrhœa in West Ham, Liverpool, Salford, Preston, and Sheffield. The mortality from scarlet fever showed no marked excess in any of the large towns. The 70 deaths from diphtheria included 24 in London, eight in Leeds, eight in Sheffield, seven in West Ham, and seven in Leicester. One fatal case of small-pox was registered in Blackburn, but not one in any other of the 33 large towns. There were seven cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, August 4th, against 17, 14, and 11 at the end of the three preceding weeks; no new case was admitted during the week, against four, one, and three in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1827, against 1877 and 1859 on the two preceding Saturdays; 158 new cases were admitted during the week, against 208, 222, and 207 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 140 to 196 in the four preceding weeks, declined again last week to 136, and were 43 below the corrected average. The causes of 53, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Nottingham, Bolton, Newcastle, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Huddersfield, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·0 and 17·5 in the two preceding weeks, further declined to 17·2 per 1000 during the week ending August 4th, and was 3·3 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13·3 in Dundee and 13·5 in Perth to 19·3 in Paisley and 19·5 in Glasgow. The 533 deaths in these towns included 60 which were referred to diarrhœa, 19 to measles, 12 to whooping-cough, 11 to "fever," five to diphtheria, two to small-pox, and not one to scarlet fever. In all 109 deaths resulted from these principal zymotic diseases, against 102 and 87 in the two preceding weeks. These 109 deaths were equal to an annual rate of 3·9 per 1000, which was 2·1 below the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had been 38 and 36 in the two preceding weeks, further increased last week to 60, of which 37 occurred in Glasgow,

seven in Paisley, five in Dundee, three in Edinburgh, and three in Aberdeen. The deaths from measles, which had risen from 17 to 24 in the three preceding weeks, declined again to 19 last week, and included 14 in Glasgow and four in Edinburgh. The fatal cases of whooping-cough, which had been 22 and nine in the two preceding weeks, rose again last week to 12, of which nine were registered in Glasgow and two in Greenock. The deaths referred to different forms of "fever," which had been 11 and six in the two preceding weeks, rose again to 11 last week and included six in Glasgow and four in Edinburgh. The fatal cases of diphtheria, which had been four, six, and one in the three preceding weeks, rose again last week to five. The deaths from small pox, which had been two in each of the two preceding weeks, were again two last week, and were both registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 80 and 67 in the two preceding weeks, increased again to 73 last week, and were 21 in excess of the number in the corresponding period of last year. The causes of 30, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·4 and 18·3 per 1000 in the two preceding weeks, rose again to 24·0 during the week ending August 4th. During the past four weeks the death-rate in the city has averaged 21·0 per 1000, the rate during the same period being 17·9 in London and 17·1 in Edinburgh. The 161 deaths belonging to Dublin registered during the week under notice were 38 in excess of the number in the preceding week, and included 14 which were referred to the principal zymotic diseases, against eight, 13, and five in the three preceding weeks; of these, nine resulted from diarrhœa, three from whooping-cough, two from "fever," and not one either from small-pox, measles, scarlet fever, or diphtheria. These 14 deaths were equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 5·7 in London and 2·2 in Edinburgh. The deaths referred to diarrhœa, which had been four in each of the two preceding weeks, increased to nine last week. The 161 deaths in Dublin last week included 33 of infants under one year of age and 43 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a considerable excess over the numbers recorded in the preceding week. Eight inquest cases and four deaths from violence were registered; and 59, or more than a third, of the deaths occurred in public institutions. The causes of six, or nearly 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: Hugh P. Turnbull to the *Duke of Wellington*; Edward T. P. Eames to assist Board of Medical Officers in examination of candidates for commissions in Royal Marines; and Malcolm Cameron to the *Northampton* for *Cleopatra*.

ROYAL HORSE GUARDS.

Surgeon-Captain Hugh Rayner to be Surgeon-Major, in succession to Surgeon-Lieutenant-Colonel J. S. Forrester, deceased.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenants to be Captains: Stevenson Lyle Cummins, Joseph McArdle, Charles Hensley Hopkins, Lewis Julius Christopher Hearn, Peter McKessack, John McDonald McCarthy, Ernest Brodribb, John Poe, Henry Lawrence Weekes Norrington, Hamilton George Frampton Stallard, Robert Dalkeith Jephson, and Arthur Winniett Nunn Bowen. Lieutenant-Colonel Abraham Walker Browne is placed on temporary half-pay on account of ill-health.

VOLUNTEER CORPS.

Royal Engineers: 2nd West Riding of Yorkshire (Leeds): Surgeon-Lieutenant H. Waite to be Surgeon-Captain. *Rifle:* 5th Volunteer Battalion the South Wales Borderers: Surgeon-Lieutenant J. R. I. Raywood to be Surgeon-Captain. 2nd Volunteer Battalion the Royal Sussex Regiment: Surgeon-Lieutenant G. Black to be Surgeon-Captain and to remain supernumerary. 3rd (Duke of Connaught's Own) Volunteer Battalion the Hampshire Regiment: Captain Charles Henry Newby resigns his commission and is appointed Surgeon-Lieutenant. 1st Volunteer Battalion Princess Charlotte of Wales's (Royal Berkshire Regiment): Surgeon-Captain A. G. Paterson resigns his commission. 2nd London: Surgeon-Captain W. A. Bond resigns his commission. 15th Middlesex: Surgeon-Lieutenant James Godding resigns his commission and is appointed Lieutenant. 19th Middlesex: John James Rickard Macleod to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Surgeon-Major W. Coates to be Surgeon-Lieutenant-Colonel on increase of establishment and to command under paragraph 55A Volunteer Regulations. Surgeon-Captain J. J. K. Fairclough to be Surgeon-Major.

TRANSVAAL WAR NOTES.

It has been decided to send out at once to South Africa a large reinforcement of trained men of the Royal Army Medical Corps.

Major J. Meek, R.A.M.C., has been appointed Principal Medical Officer of the American hospital ship *Maine*.

Major Raymond, R.A.M.C., Captain Mason, R.A.M.C., Lieutenant-Colonel Barker, R.A.M.C., Captain Butler, R.A.M.C., Captain Stalkartt, R.A.M.C., and Civil Surgeon Parker are reported on their way home from South Africa invalided.

THE CRISIS IN CHINA.

A third brigade, to consist of the 4th and 20th Punjabis, the 6th Bengalis, and one regiment of Hyderabad Infantry is to proceed to China. The transport *Canning*, with the 4th Battalion of the 1st Goorkhas, the 66th Native Field Hospital, details, and supply column, and the transport *Nation*, with ordnance park, transport mules, the 39th Native Field Hospital, native general hospital, and special service details, has arrived at Hong-Kong.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The fortieth class for the instruction of medical officers in the subjects of the proficiency examination will be held at the headquarters of the Prince of Wales's Own, 12th Middlesex (Civil Service) Volunteer Rifles, Somerset House, Strand, W.C., by permission of Lieutenant-Colonel H. B. H. Tytheridge, commanding that regiment, and will last five days, commencing on Monday, Sept. 24th, at 2.30 P.M. precisely, and concluding on Friday, Sept. 28th, at 5.30 P.M. The instruction will include all the subjects of the examination, also the duties of medical officers generally in camps, quarters, bivouacs, with brigade bearer-companies and other units, on the line of march and elsewhere. Practical instruction in bearer company drill will form an important part of the work of the class. Officers who are unable to attend this class can obtain instruction by correspondence. These classes will be under the instruction of Surgeon-Captain E. M. Callender, 40, Connaught-square, Hyde-park, London, W., to whom all officers should apply who intend to join either class or who wish for further information, at the same time stating their rank and corps.

Correspondence.

"Audi alteram partem."

"PROFESSOR LUSTIG'S PLAGUE SERUM."

To the Editors of THE LANCET.

SIRS,—Your special Indian correspondent, fully appreciating the importance of the subject, made a point of reporting periodically to your readers on the progress of the experiments which were initiated with Professor Lustig's curative plague serum in 1898 by the municipality of Bombay. Evidently possessed by the conviction that he could advance best the cause of humanity and science from the comfortable standpoint of absolute negation he has from the beginning been eager to assert that the results obtained were utterly fallacious and wholly due to the selection of the cases which

was practised at first. He, moreover, for reasons religiously kept to himself did not approve of the method of the manufacture of the serum.

Such condemnatory verdict, pronounced in a leading medical journal, did not necessarily tend to lessen the already existing difficulties in carrying on the experiments, for the successful termination of which, however, the authorities and the public were equally desirous. Fortunately his arguments betrayed a lack of personal information and an overflow of imagination surprising even in a special Indian correspondent, and they failed to convince the responsible persons who were on the spot and knew the real facts. The experiments, therefore, were allowed to proceed on the lines laid down by the experimenters in spite of his scathing criticism. Thus it happened that in April last I was in the position, as one of the medical officers entrusted by the municipality for some time past with the manufacture of the serum, to lay the following statistical details based on official records before a special meeting of the Bombay Medical Union:—1. From March 13th, 1898, till May, 1899, 403 "selected" patients were treated with the serum at the Arthur-road Hospital and had a recovery-rate of 33·2 per cent., whereas the 1190 patients who were excluded from the serum treatment and treated by ordinary methods had a recovery-rate of 19·5 per cent. This rate of the excluded patients was found to be identical with the recovery-rate of the other large plague hospitals, and gives, therefore, the proof that the increase on the serum side was real and not due to the selection. That is further corroborated by the fact that the total recovery-rate at the Arthur-road Hospital was 4·5 per cent. higher than in other hospitals. 2. From April, 1899, till April, 1900, 361 patients were treated with the serum at the same hospital and had a recovery-rate of 33·8 per cent. These patients were *not* selected but taken alternately as they were admitted, an equal number remaining as controls under the ordinary treatment. The controls had a recovery-rate of 21·3 per cent., this rate being again identical with that of the other hospitals. The total recovery-rate of the Arthur-road Hospital was consequently 6 per cent. higher than that of the other hospitals. On the strength of these statistics and various other evidence I felt myself entitled to conclude: (*a*) that the experimental stage of the serum treatment was over; (*b*) that the curative properties of the serum had been established beyond reasonable doubt; (*c*) that they were represented at present by the improvement of 12·5 per cent. obtained in the patients taken alternatively for treatment; (*d*) that they were satisfactory in themselves; and (*e*) that they were certain to be improved upon with the increasing experience in the manufacture and application of the serum.

The medical practitioners attending the meeting—foremost amongst whom was the President of the Bombay Medical Union, Sir Balchandra Krishna, whose distinguished services in combating the plague won him the knighthood—certainly the best judges of the facts placed before them, accepted the statistics and conclusions as correct, unanimously considering "that the serum was the only curative remedy against plague of some potency at present known to the scientific world, the cures effected by it being at present 12 per cent. more than cures with the ordinary treatment," and passed unanimously the following resolution to be brought before the Corporation of Bombay for favourable consideration:

> 1. That this meeting of the local medical profession is of opinion that the treatment of plague with Professor Lustig's curative serum has given encouraging results, even under the unfavourable circumstances of hospital treatment, and that its use should be extended for the benefit of patients allowed to be treated at their houses by private practitioners. 2. That greater facilities than those given hitherto should be afforded to private practitioners in order to encourage the use of the serum in private practice. 3. That the President be requested to communicate this resolution to the President of the Corporation and the Municipal Commissioner, and to enter into such correspondence with them on the subject as seems to him necessary.

This resolution was considered by the corporation at their meeting of May 23th last, and forwarded to the Municipal Commissioner for favour of remarks. The Commissioner thereupon took immediate steps to comply with the contents of the resolution and rules for the use of the serum in private practice were framed under the supervision of Lieutenant-Colonel J. S. Wilkins, I.M.S., D.S.O., the Special Medical Officer, Plague Operations, appointed by Government, who as the result of his observations in the plague hospitals under his charge has become a keen supporter of the serum treatment.

Considering that the views entertained by your correspondent had thus been proved to be at variance with those of the responsible authorities in Bombay and with the facts, one might rightly have expected that he would have hastened to correct the wrong impression he had forced upon your readers and not have hesitated to admit the errors he had fallen into. But instead of reporting on the gratifying and promising conclusion of the experiments with Professor Lustig's serum, as would have been his duty, your correspondent reiterates *ad nauseam* his flimsy arguments in your issue of June 2nd, p. 1608, discussing the paper I read before the meeting of the Bombay Medical Union in the confused, illogical, and contradictory style quite his own—at least whenever he has occasion to write on Professor Lustig's serum treatment of plague. By an ingenious juggling once more with the bugbear of the selection of cases and by dismembering and misquoting my statements he almost succeeds in conveying the idea that the 12 per cent. claimed as improvement for the treatment have also been obtained in selected cases. And not content with this achievement he gives the last touch to the performance by doubting my figures and by deliberately insinuating that the improvement of 12 per cent. as shown by me is not real and has been arrived at by an ambiguous arrangement of figures.

I do not intend to disprove in any way your correspondent's assertions, as in doing so I would be compelled to violate the etiquette so strictly observed in controversies—viz., never to call in question the *bona fides* of arguments or statements. But what I would permit myself to say here is that anyone who has read my paper on Lustig's serum—and I trust that you, Sirs, on receipt of this will take the opportunity of reading it—and who has also read the comments of your correspondent upon it in your issue of June 2nd, must arrive at the conclusion that he either did not read my paper or did not understand it or did not want to understand it. Little flattering as the first two alternatives might be for a special correspondent and an English medical man, they are no doubt to be preferred to the third. It is much to be regretted that in a matter of great public and scientific interest which not only concerns the poor inhabitants of India, but may also at any moment concern our own families and fellow countrymen in Europe, one of the foremost medical papers of Great Britain should have to depend for its information on a correspondent who is unable to give an unbiased statement of the facts, and who, without possessing the requisite knowledge, criticises unfairly the facts and figures brought forward to show the results of the treatment of plague cases with Professor Lustig's serum.

I am, Sirs, yours faithfully,

A. MAYR, M.D.

Municipal Laboratory, Parel, Bombay, July 6th, 1900.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to an article on Professor Lustig's serum which appeared in THE LANCET of June 2nd, written by your Special Correspondent in India. As one other amongst the advocates of this serum than Dr. Mayr I must call your attention to the inaccuracies which this article contains. Dr. Mayr himself is answering the various errors of your correspondent and I fully concur in what he states. As far as I am concerned in the matter I may say that as special medical officer in charge of all the plague hospitals in Bombay I have had full opportunity of seeing for myself the value of the experiments carried on at the Arthur road Hospital with this serum and cannot understand how your correspondent could mislead you and your readers in the way he has done. As Dr. Mayr has gone into the subject fully I need not occupy any more of your space except to say that the first experiments up to May, 1899, were carried on with selected cases; since May, 1899, and up to the present time we have had every alternate case of plague admitted to this hospital treated with the serum and have nearly reached 500 on either side. On a visit of Professor Schotteleus of Freibourg University last cold weather to study the plague in Bombay he was so much interested in the results of the serum treatment that on his return to Europe he very kindly obtained for us some curative serum from the Pasteur Institute. When this arrives I propose to use it on every alternate case with Lustig's serum—i.e., one case treated with Roux's and one with Lustig's serum.

I am, Sirs, yours faithfully,

JAMES S. WILKINS, Lieut.-Col., I.M.S.,
Special Medical Officer, Plague Hospitals, Bombay.

Lansdowne House, Bombay, July 6th.

"THE MEDICAL STAFF AND THE MANAGEMENT OF THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE."

To the Editors of THE LANCET.

SIRS,—We have seen with much surprise that the special general meeting of governors and subscribers "to consider and determine the following questions—that is to say (1) whether the demand of the medical and surgical staff for direct representation upon the board should be granted; and (2) whether it is desirable to hold a further inquiry into the condition of the hospital" has been fixed by the board of management for Saturday, August 11th. That date has been selected, according to the secretary-director, as representing "the earliest day permitted by the rules." Unfortunately, it falls in the very heart of the holiday season, when it will be impossible for any large proportion of the governors to attend the meeting. The great majority of the medical staff will also be away from town. Under these circumstances, feeling that a full and fair consideration of the questions is impossible at this time, we have requested the board of management to postpone the meeting till the end of October when an adequate attendance of governors can be secured, and have intimated to him that it is not possible for the medical staff to be represented at the meeting on August 11th, or to take any part in it. We would point out that any decision arrived at on Saturday next cannot be regarded as final and that we shall be ready, at a meeting summoned at an appropriate time, to place fully before the governors our view of the questions at issue.

We cannot venture to trespass on your space to the extent which would be necessary to point out all the statements in the letter of the secretary-manager in the *Times* of August 3rd which are calculated to mislead; but it appears to us distinctly necessary to object to what is represented as the "clear issue," and also to the apparent intention to limit the scope of the inquiry to the present condition of the hospital. What is needed is as described by us in our letter of July 27th,[1] "a full and searching inquiry into the constitution and management of the hospital, to be carried out by an independent and, at the same time, competent body."

We are, Sirs, your obedient servants,

J. HUGHLINGS JACKSON, M.D. St. And., F.R.C.P. Lond., F.R.S.,
THOMAS BUZZARD, M.D., F.R.C.P. Lond.,
Consulting Physicians to the Hospital.
R. BRUDENELL CARTER, F.R.C.S. Eng.,
Consulting Ophthalmic Surgeon.
H. CHARLTON BASTIAN, M.D., F.R.C.P. Lond., F.R.S.,
W. R. GOWERS, M.D., F.R.C.P. Lond., F.R.S.,
DAVID FERRIER, M.D. Edin., F.R.C.P. Lond., F.R.S.,
J. A. ORMEROD, M.D. Oxon, F.R.C.P. Lond.,
Physicians to In-patients.
CHARLES E. BEEVOR, M.D., F.R.C.P. Lond.,
HOWARD H. TOOTH, M.D., F.R.C.P. Lond.,
JAMES TAYLOR, M.D. Edin., F.R.C.P. Lond.,
J. S. RISIEN RUSSELL, M.D. Edin., F.R.C.P. Lond.,
Physicians to Out-patients.
W. ALDREN TURNER, M.D. Edin., F.R.C.P. Lond.,
FREDERICK E. BATTEN, M.D. Cantab., M.R.C.P. Lond., Assistant Physicians.
FELIX SEMON, M.D. Berlin, F.R.C.P. Lond.,
Physician for Diseases of the Throat.
VICTOR HORSLEY, F.R.C.S. Eng., F.R.S.,
CHARLES A. BALLANCE, F.R.C.S. Eng.,
Surgeons.
R. MARCUS GUNN, F.R.C.S. Eng.,
Ophthalmic Surgeon.
A. E. CUMBERBATCH, F.R.C.S. Eng.,
Aural Surgeon.

(The names of absent members have been added by authority.)

August 6th, 1900.

"ADDISON'S DISEASE AND LEUCODERMA."

To the Editors of THE LANCET.

SIRS,—With reference to the interesting and valuable remarks of Sir Samuel Wilks on Addison's Disease and Leucoderma, together with Sir W. T. Gairdner's letter thereon, may I be permitted to refer to a case bearing on the point under discussion, mentioned by Heller in his recent paper on Morbus Addisonii.[1] This writer states he has seen one case of Addison's disease with symmetrical leucodermic areas, but he gives no details.

I am, Sirs, yours faithfully,

GEORGE PERNET.

Upper Gloucester-place, Dorset-square, N.W., August 6th, 1900.

[1] THE LANCET, August 4th, 1900, p. 351.

THE COVENTRY PROVIDENT DISPENSARY.

To the Editors of THE LANCET.

SIRS,—At the general meeting of the British Medical Association no doubt many of the members present were surprised at the attitude of Dr. Saundby in supporting the medical men holding appointments in the Coventry Provident Dispensary and condemning any attack upon that institution. It is plain that an ex-president of Council in supporting such an institution has not made himself conversant with the facts of the case, seeing that it has been condemned by the ethical branch of the British Medical Association, THE LANCET, the *British Medical Journal*, and the *General Practitioner*, and was condemned also at the annual meetings at Edinburgh and Portsmouth, and that the institution is entirely without a wage-limit, and accepts members without any regard to their social position. This dispensary is one of glaring abuse and has been severely criticised by various committees of the Association; in addition, it has been closely investigated by a Special Commissioner of THE LANCET, who represented it as being one of the most abused institutions in the kingdom. Under these circumstances the Association will stultify itself if it takes no action in the matter, after the strong expression of opinion at the annual meetings. The profession in Coventry would suggest that the Council should appoint a special delegate (not a Birmingham consultant) to visit Coventry and report upon the whole question in dispute.

I am, Sirs, yours faithfully,

EDWARD PHILLIPS.

Coventry, August 7th, 1900.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Small-pox and Raw Cotton.

AN outbreak of small-pox in the urban district of Littleborough is giving some anxiety. It seems that all the persons who were attacked were employed in the card-room of one of the mills. Dr. G. C. Pitcairn, the medical officer of health of Littleborough, suggested that the manipulation of infected raw cotton started the four first cases. Precautionary measures were strictly enforced and isolated cottages secured as soon as possible for the convalescent cases until thorough disinfection could be carried out. The matter was discussed at the last meeting of the Lancashire County Council when some members considered that the suggestion as to its origin was based on surmise, and that the matter should have been more fully investigated before being printed in an important report, as it was "a most serious thing for Lancashire." Of course it is, and hence it is all the more necessary that it should be thoroughly investigated. That small-pox should occasionally be conveyed in cotton bales does not seem improbable, but it must occur so rarely that no great scare need arise. On the face of it the history of the cases certainly points to a common source of infection.

The Port Sanitary Authority.

At the meeting of the Manchester City Council on August 1st it was agreed to request the Local Government Board "to make an order constituting a permanent port sanitary authority out of all the councils abutting on the port, giving them adequate representation and desiring them to contribute proportionately to the expenses of the authority." So far the expenses have been borne by Manchester, Salford, and Stretford, but other towns,

[1] Encyklopädie der Haut- und Geschlechts-Krankheiten, p. 11. Edited by Lesser. Leipsic, 1900.

Ellesmere Port, Runcorn, and Warrington, for instance, have important commercial interests on the Ship Canal and ought to pay their share. So far they have not agreed as to the proportion they should bear. The Local Government Board are, therefore, to be asked to formulate an equitable scheme "as a mutual reciprocal arrangement seemed impossible."

Pollution of Gore Brook.

One of the most attractive and picturesque open spaces possessed by Manchester, Birch Park—or Birch Fields, as it used to be called—is traversed by a flowing brook which ought to add to the scene a beauty of its own. But the stream is black and its odour abominable, and Mr. McDougal, as alderman of the Rusholme ward of the city of Manchester, has again brought the matter before the Joint Rivers Committee. He states that although the city council have taken temporary measures to deodorise the water it is still "a source of danger and annoyance to residents in the neighbourhood and others who visit Birch Park." It was pointed out 12 months ago by a deputation representing the inhabitants of Rusholme that the stream was polluted almost from its source by a part of the sewage of Audenshaw, Droylsden, and Gorton. Promises of amendment were made by the various authorities, but only to be broken, for practically no purification has taken place. The usual excuses are made—more time required, plant not completed, &c. In the meantime the sewage flows on, and being heavily charged with a chemical precipitant all the settlement takes place in the stream itself. One of the committee said that he had seen upwards of 50 children wading in this open sewer, and "he could hardly think that the Parks Committee of the Manchester Corporation had done their duty in the matter." Proceedings are to be taken against two of the authorities, and in the meantime this unsavoury tributary of the Ship Canal flows on unchecked till its foulness is lost in the still greater foulness of the canal itself.

The Blackburn Guardians and Vaccination.

At the meeting of the Blackburn board of guardians on August 4th it was reported that Dr. James Wheatley, medical officer of health for the borough, had written saying that he thought it advisable, owing to the prevalence of small-pox in the town, that all the inmates of the workhouse should be revaccinated. It was decided to take no notice of the letter but to stop visiting at the workhouse. This decision means apparently that the guardians deny the inmates of the workhouse the protection from small-pox afforded by revaccination. Are paupers not entitled to such protection if they wish to have it? Shut off very much from the outer world and more ignorant possibly than the guardians, they may know but little of the danger of their contracting small-pox owing to its prevalence in the town, but in practically denying them protection the guardians take upon themselves the responsibility of any cases of small-pox that may occur among them.

The Medical Officership of Crewe.

The Town Council of Crewe and the Local Government Board have been in correspondence as to the stipend of the medical officer of the borough. Dr. Alfred Greenwood of Stockport has been appointed as successor to Dr. Meredith Young at a commencing salary of £300. The Local Government Board, no doubt considering that this was too little to pay to a gentleman who was to give his whole time to the service of such a populous and important town, suggested that his salary should not be less than £500. But—showing how old sins bring their Nemesis—the Council were able to retort that in the case of a former medical officer the Board had sanctioned £300 as the salary. The Board, therefore, finally stated that, "while they would have preferred" a salary of £500 a year, they would be ready to sanction an appointment at £300 a year, "on the understanding that, while giving his whole time to the council in other respects, he should be at liberty to supplement his income by acting as a consultant in cases of infectious disease if invited to do so by any other medical practitioner, by performing analyses and other laboratory work, and by receiving qualified medical men as pupils for instruction in sanitary science, and in other public work of a similar character not involving the ordinary work of a general practitioner." This is a remarkable compromise on the part of the Local Government Board.

August 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Graduation Ceremonial at Edinburgh University.

THE summer graduation ceremonial of Edinburgh University was held in the McEwan Hall on July 28th. As usual the majority of the degrees conferred were in the Faculty of Medicine. Mr. John Philip Wood, W.S., professor of conveyancing in Edinburgh University, was the only recipient of an honorary degree—that of Doctor of Laws. The degree of Doctor of Medicine was conferred on 53 gentlemen. Gold medals were awarded to three of these—viz., Walter William Chipman (B.A.), Canada, M.B., C.M., 1895; David James Galloway, Scotland, M.B., C.M., 1884 (in absentia); and David Waterston (M.A.), Scotland, M.B., C.M. (with second-class honours), 1895. The degrees of Bachelor of Medicine and Master of Surgery were conferred in 10 cases and the degrees of Bachelor of Medicine and Bachelor of Surgery in 158 cases. The Cameron Prize in Therapeutics was awarded by the Senatus Academicus to Mr. W. M. Haffkine, C.I.E., in acknowledgment of the great practical importance of his researches on the prevention of plague by inoculation. The address to the graduates was delivered by Professor Hunter Stewart.

University of St. Andrews.

At a meeting of the University Court of St. Andrews held on July 28th the Lord Rector announced that he had received a letter from the law agent of the Marquis of Bute informing him that the Marquis of Bute proposes to offer to the University of St. Andrews the sum of £20,000 to be held as a fund for endowing a chair of anatomy, under the following conditions: 1. That the said sum of £20,000 shall be paid to the University not later than 10 years hence. The exact date cannot be specified, as it will depend on the completion of certain works at Cardiff. Interest at 3 per cent. will be payable to the University from the time of the appointment of the first professor until they receive the principal sum. 2. That the first presentation to the chair shall be in favour of Dr. Dusgrove, the present holder of the lectureship in anatomy in St. Andrews. 3. That the lectures shall be given exclusively in St. Andrews. 4. That the course shall meet the requirements of the two first "anni medici." 5. That before the beginning of the University session of 1901-1902 the approval of the Universities Committee of the Privy Council to the establishment of the chair under the foregoing conditions be obtained; and that the approval of Lord Bute or his representatives be obtained to any further conditions embodied in the ordinance instituting the chair. A postscript explained that the letter was written on the understanding that the University was prepared to make adequate arrangements for completing the permanent provision in St. Andrews of teaching necessary for the first two "anni medici." It was unanimously resolved to send the very hearty thanks of the Court to Lord Bute for his generous offer, also to print and circulate his letter and to consider the subject at a special meeting of the Court to be held on Saturday, Sept. 1st.

July 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Apothecaries' Hall of Ireland.

AT the annual meeting of the General Council of the Apothecaries' Hall of Ireland on August 1st the following were duly balloted for and elected to hold office for the ensuing year, ending July, 1901:—Governor: H. A. Auchinleck, F.R.C.S. Irel. Deputy Governor: G. Stritch, L.R.C.S. Edin. Directors: Francis G. Adye-Curran, M.D. T.C.D., F.R.C.S. Irel.; A. Atock, M.D., M.S., R.U.I.; John Evans, L.R.C.S. Irel.; W. V. Furlong, L.R.C.S. Irel., L.R.C.P. Edin.; John A. Johns, M.D. T.C.D.; Robert Montgomery, M.R.C.S. Eng.; Robert J. Montgomery, M.B. Dub., F.R.C.S. Irel.; R. G. O'Flaherty, M.B. T.C.D., L.R.C.S. Irel.; Christopher M. O'Brien, M.B. Durh., L.R.C.S., L.R.C.P. Irel.; Joseph A. Ryan, L.R.C.S. Edin.; James Raverty, L.R.C.S. Edin.; James Shaw, L.R.C.S. Irel.; and C. R. C. Tichborne, L.R.C.S. Irel. Representative on the General

Medical Council: C. R. C. Tichborne, L.R.C.S. Irel., D.P.H., &c. Secretary: Robert Montgomery, M.R.C.S. Eng.

Irish Women and University Education.

At the recent matriculation examination of the Royal University of Ireland 150 of the 555 successful students were women, a sufficient indication of the practical interest taken in university education by women.

The Belfast Hospital for Diseases of the Skin.

From the annual report submitted to the supporters of this charity on July 25th I find that 894 patients were treated during the year, of whom 37 were admitted into the wards. There is a balance in hand of £77 8*s.* 6½*d.* Special reference was made to the loss which the institution had sustained in the death of its President, the late Professor Hodges, M.D. R.U.I., who for such a lengthened period took the deepest interest in its work. Dr. H. S. Purdon, who for 35 years has been closely connected with the hospital, was appointed President in place of Professor Hodges.

Rainfall in July.

The rainfall in the past month amounted to 4·50 inches, there being 20 days on which rain fell, and the total rainfall for the year now amounts to 23·88 inches. This has been the wettest July since 1896 and the rainfall for the present year is 2½ inches over the average and 4½ inches more than last year.

The Outbreak of Typhoid Fever in Belfast.

At a meeting of the City Council of Belfast held on August 1st a report from the joint committees of improvement and public health was read in regard to typhoid fever in Belfast which has been already referred to in THE LANCET. It appears that the normal death-rate from typhoid fever in the city of Belfast is 4·46 per 10,000, while in Manchester it is 1·17 and 2·16 in Birmingham—that is, Belfast has about twice as much typhoid fever as a well-regulated manufacturing city should have. As to the causes, reference was made to the water-supply, sewerage, houses with bad privy and ashpit arrangements, presence of polluted old streams, and arrangements have been made to combat these causes. In the discussion which followed one of the speakers referred to the report of the new city analyst on the Belfast water which said among other things: "Judged by the ammonia process none of these waters (samples) can be considered high-class; they all contain more volatile solids than are usually found in Belfast water. The organic or albuminoid ammonia is rather high in all the samples, but is sufficiently high in Nos. 58, 36, 35, and 57 to place them among what may be called 'suspicious waters.' Nearly all the samples contained a good deal of matter in suspension, clearly indicating inefficient filtration." The same speaker said that a report by the city analyst made two years ago for the Water Commissioners was to the effect that the water was quite unimpeachable. On the day after the council meeting (viz., August 2nd) at a meeting of the Public Health Committee Dr. Lorrain Smith's report on the bacteriological examinations (which he has made for the committee) of the water-supply was received. He examined six samples of water with the following results: (1) yielded nothing; (2) gave negative results; (3) the colonies planted out from the residue directly and after cultivation in Parietti's medium were all found after examination to belong to ordinary water bacteria; (4) plates made from filter residue directly and from the growth in Parietti's medium were carefully examined but none of them stood the tests of detailed examination; (5) gelatin plates gave an average of 90 colonies per cubic centimetre; plates from the residue directly and from Parietti tubes yielded no colonies that stood the further tests: and (6) gelatin plates gave an average of 61 colonies per cubic centimetre. Plates from the residue directly and after cultivation in Parietti's medium gave no suspicious colonies. Dr. Lorrain Smith has in his possession the record of a series of observations made during 28 weeks of the spring and summer, 1899, extending from April to October. The highest number of colonies per cubic centimetre was 250, the lowest was 50, and the average was 119 cubic centimetres. The results of the present examination are very similar to those obtained in 1899, and in the number and quality of the microbes present the water now compares favourably with that supplied two years ago at the time of the general typhoid fever epidemic. "My examination now," says Dr. Lorrain Smith, "has failed to show that there is any recent increase in contamination or that the improvement observed during last summer has not been maintained." This report clearly shows that the water-supply as a cause of the present outbreak of typhoid fever may be excluded and that the question of its origin must be considered as arising from other causes, such as bad drainage, polluted soil, and defective sanitary arrangements as present in so many Belfast houses.

August 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Anæsthesia during Labour produced by Injection of Cocaine into the Lumbar Arachnoid.

M. Doléris and M. Malartic have presented to the Academy of Medicine a very interesting communication on this subject. Their observations were made at the Maternity of Boucicaut on five women to four of whom cocaine was given for abnormally severe labour pains and in one case for the application of forceps. Although too few in number for the formation of a definite opinion, the result of these cases suggested the following conclusions:—(1) The uterine contractions became painless in from five to 10 minutes with doses of from one to two centigrammes (one-sixth to one-third of a grain); (2) with a dose of three quarters of a centigramme (one-eighth of a grain) they did not cease to be felt but they were painless for 17 minutes; (3) complete analgesia lasted one hour and 28 minutes, one hour and 47 minutes, and two hours and 15 minutes with doses of from one to two centigrammes; (4) the uterine contractions were more energetic, more frequent, and more prolonged after than before the injections; (5) in the interval between the contractions the uterus remained in a state of partial contraction for a variable period, on which account until further knowledge is gained it would be prudent not to use this method of inducing anæsthesia when turning might be required; (6) the loss of blood appeared to be less than usual, and in a case of placenta prævia the bleeding stopped spontaneously before the rupture of the membranes; (7) no effect was produced on the fœtus; (8) there was no ill consequence of any importance, the principal one being slight vomiting which soon passed off; and (9) in addition to its analgesic effect the injection of cocaine seemed to increase the contractility of the uterus and to act as a vaso-constrictor of the uterine vessels.

Tuberculosis in the Police.

Another example of tuberculosis incidental to occupation has been discovered similar to that occurring among attendants on the sick, post-office employés, and laundresses. M. Landouzy has just been examining the statistics of invaliding and death from tuberculosis registered during the last 10 years in the Paris police force. The number of officers of the Municipal Police varied from 8153 in 1894 to 7943 in 1899. Among an average annual strength of 7678 men there were in 10 years 325 cases of invaliding, and 230 of these, or 28 per cent., were on account of tuberculosis. During these 10 years there was a total of 491 deaths, of which 249 were due to pulmonary phthisis—namely, 49 per cent., or almost exactly one-half. When it is considered that the police are picked men, specially selected firstly, when they enter the army, and secondly, by the medical officers of the police at the time of their engagement, it will be seen that the police taken altogether suffer at least as much from tuberculosis as the post-office and telegraph employés, who show 25 per cent. of tuberculous diseases. The causes in fact are the same—namely, the unhygienic state of the police buildings where the men after their hours of duty come to rest in the midst of bacteria-laden dust brought in and scattered by the trampling of many feet. Several prophylactic measures have been already taken by M. Lépine, such as the providing of spittoons containing fluid in the police buildings, damp cleaning of the floor twice a day, and washing with plenty of water once a week. But it is in the internal arrangements of the police buildings that alterations are most required, for the rooms are low, dark, ill-ventilated, and overcrowded.

Sanatoria for Tuberculosis.

Seven years ago the Parisian sanatorium of Angicourt (Oise), the first and only sanatorium for tuberculous patients undertaken by the Assistance Publique, was commenced. It is not yet finished and its opening, which was to have coincided with the International Congress of Medicine, is

indefinitely deferred. Its cost is said to be going to be 7,000,000 francs. In contrast to this, the sanatorium of Hauteville-en-Bugey (Ain), built privately on an excellent mountain site under the auspices of the Lyons Association for the Tuberculous Poor, will be opened on August 23rd. Patients desirous of admission must present themselves at the Hôtel Dieu at Lyons on Monday, August 20th. The tuberculous poor of Paris, however, must wait.

August 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Bacteriology of Scarlet Fever.

Professor Baginsky and Dr. Sommerfeld of the Kaiser Friedrich Hospital in Berlin have made some important bacteriological observations on the bodies of children who had died from scarlet fever. In an article published in the *Berliner Klinische Wochenschrift* they report the result of the post-mortem examination of the blood and internal organs of 42 children; they also examined the blood of a living child in whom venesection was performed on account of dyspnœa, and the fluid obtained from another patient by puncture of the spinal canal. In the case of the deceased children the blood was taken from the heart immediately after death, and, moreover, pieces of the bone-marrow, the lungs, the spleen, the kidneys, the glands, the contents of the gall-bladder were examined. Cultures were made on bouillon and on agar, the result being that a streptococcus was found to be present in every instance, sometimes growing like a pure culture in the blood taken from the heart as well as in the bone-marrow. The presence of the streptococcus was independent of the character of the disease; it appeared in the very malignant cases, where death occurred within a few days, as well as in those in which death took place at a later stage from complications. The streptococci grew in series of from three to fifty individuals, the form varying according to the culture medium. Sometimes diplococci were found. They were easily stained with anilin colours and they retained the colour with Gram's stain. They grew on alkaline bouillon, agar, blood-serum, &c., and did not liquefy gelatin; the colonies were like those of the other species of streptococci. Experiments on animals showed that the cultures differed greatly in virulence; sometimes small quantities were sufficient to kill animals, in other cases the inoculations wer e harmless. The virulence of the streptococci could be augmented by repeated inoculations. The animals died with symptoms of septicæmia, swelling of the spleen, and hyperæmia of the kidneys and intestines, and pure growths of the streptococcus were found in their organs. The virulence of the cultures decreased after a few days, but when the cultures were preserved by ice it remained unimpaired for four or five weeks. The media in which the cocci were cultivated became very virulent, injections of pepton-bouillon killing animals within 24 hours. Professor Baginsky and Dr. Sommerfeld in their *résumé* do not assert that this coccus is the specific cause of scarlet fever, although they attach importance to the fact that it was found in all 42 cases examined. It would be possible to recognise a case as scarlet fever if this streptococcus were present in the body.

Intermittent Swelling of the Joints.

Dr. Theodor Benda has drawn attention to certain morbid conditions of the joints termed by him "hydrops articulorum intermittens." The characteristic symptom of this disease is that a joint, especially the knee-joint, becomes swollen at periodical intervals which are, as a rule, very regular. The swelling sometimes occurs every eighth, sometimes every eleventh, day, and so on. In a few instances the swelling appeared every day at the same time and lasted for about an hour. In the majority of cases the swelling was not very painful nor was the patient's state altered. Fever seldom occurred. The affection was sometimes the sequel of a traumatic lesion. The prognosis was very uncertain. In one instance the disease continued for 20 years; in another instance it terminated in recovery after 13 years. Complete recovery was obtained in about 33 per cent. of the cases, but in about 50 per cent. no alteration was perceptible, whilst in the remaining cases the attacks became less frequent. A great many remedies have been tried, but the results of treatment have not been satisfactory. Injections of iodoform and carbolic acid into the joint, and the administration of quinine and arsenic were tried, while electricity and balneological treatment were successful in one case and unsuccessful in another. Opinions differ very much as to the nature of the affection. Dr. Benda has found 55 cases described in the medical literature of different countries, not including two patients observed by himself. The efficacy of quinine in some cases has been ascribed to a connexion with malaria; rheumatic fever, syphilis, menstruation, and other causes have also been alleged. The majority of the writers on the subject are of opinion that the fits are due to a neurosis of the vaso-motor nerves, as some of the patients also suffered from other nervous symptoms, such as paralysis, epilepsy, hysteria, &c. Dr. Benda says that the etiology of the affection is not yet known. The causes of the periodicity which is the characteristic symptom of the disease are just as obscure as those of other periodical phenomena such as hemicrania and recurrent insanity.

Medical Congresses.

The German Association of Naturalists and Medical Men will meet this year at Aix-la-Chapelle. This town has been chosen as it is situated on the direct line of communication between North Germany and Paris and so that members returning from the Paris Exhibition may find it easy to attend the meeting. Aix-la-Chapelle has a considerable number of British visitors who may perhaps feel an interest in some of the subjects discussed. Papers will be read by the celebrated chemist Professor van 'tHoff on Inorganic Nature, by Professor Hertwig on the Development of Biology, and by Professor Naunyn on the Present Position of Clinical Medicine. Dr. von Drigalski will deliver an address on the expedition to the South Pole, and Dr. Haussmann will discourse on some problems connected with cells and their importance for organotherapy, &c. In the medical section the theory of neurons will be discussed.—Professor Virchow was elected honorary president of the International Congress of the Medical Press held in Paris from July 26th to 28th. The Association of the German Medical Press was represented by Professor Posner, editor of the *Berliner Klinische Wochenschrift*.

August 6th.

Medical News.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At recent sittings of the Scottish Conjoint Board held at Glasgow the following candidates passed the respective examinations:—

First examination (five years' course).—Ernest Gaunt, Yorkshire College, Leeds; John Clegg Pickup, Glasgow University; Archibald Frank Spinks, Anderson's College; Percival Henderson, University College, Liverpool; William Wallace Dempster, Queen's College, Belfast; Michael Joseph J. De Jong, Ceylon Medical College; William Arthur Magill, Queen's College, Belfast; William Miller Ramsay, St. Mungo's College; J. J. F. M. O'Flaherty, Queen's College, Galway; Michael Philip Desmond, Queen's College, Cork; James B. Patterson, St. Mungo's College (with distinction); Thomas F. Murphy, Queen's College, Cork; Norman B. Watch and George Hart, Anderson's College; and John H. Roberts, St. Mungo's College.

First examination (four years' course).—Adam Ardill, Dublin Schools.

Second examination (five years' course).—Robert Calder Blyth, Archibald M. Laurie, and William Douglas Cockburn, St. Mungo's College; Walter Ball, University College, Liverpool, and Anderson's College (with distinction); Henry Raynor Helsby, University College, Bangor, and St. Mungo's College; John Forbes Webster, and Reginald Norman Macdonald, Anderson's College; Alexander Russell Young and Thomas Joseph M'Caigney, St. Mungo's College; and Michael John M'Carthy, Queen's College, Cork.

Second examination (four years' course).—Thomas B. Trotter, Anderson's College; and Honorine Forbes, Calcutta Medical College.

Third examination.—Andrew Young and John Kean, St. Mungo's College; Alice Evangeline Brown, London School of Medicine for Women; Ethelbert Hearn, Firth College, Sheffield; Robert John Roberts, St. Mungo's College; Joseph Edwin Cooper, Newcastle School of Medicine; Rudolph de Mello, Grant Medical College, Bombay; and Ernest L. M. Hackett, Queen's College, Cork.

Final examination (and admitted Licentiate of the three co-operating authorities).—Percival Horace Rainbird and George Johnstone Campbell, St. Mungo's College; Alice Miles, Queen Margaret College; Sarah Harper Smith, London School of Medicine for Women; Albert Edward Ward, Anderson's College; John Thomson Malloch and Harry Miller Roberts, St. Mungo's College; Mary Eleanor Rocke, London School of Medicine for Women; Rupert Edward Moorhead, Anderson's College and Glasgow University; Charlotte Rudd, Ceylon Medical College

Richmond Goulden, Owens College, Manchester; David Crombie and Thomas Day Bird, St. Mungo's College; Richard Henderson O. Garbutt, Newcastle School of Medicine; Andrew Asher Brown, Surgeons' Hall, Edinburgh; Richard M'Kim Wilkin, Anderson's College and Queen's College, Belfast; Abraham George Sutton, Queen's College, Cork; Alexander Scoular, Anderson's College; James T. O'Connor, Queen's College, Cork; John James Lynch, Queen's College, Cork; Francis Fernandes, Grant Medical College, Bombay; Harold Robert Loverock, Royal College of Surgeons, Ireland; John Taylor, Glasgow Schools; Samuel Graham Kinloch, Edinburgh School; Rudolph de Mello, Grant Medical College, Bombay; Albert George Meares, Melbourne University; Daniel Samuel Coto and Augustus Daniel Kearney, Melbourne University; William John Buckmaster Queen's College, Cork; Thomas Randolph Hunter, Anderson's and St. Mungo's Colleges; Thomas Baird Trotter, Aberdeen University and Anderson's College; Patrick Brady, Dublin School; and Francis Joseph Nolan, Dublin School.

UNIVERSITY OF EDINBURGH.—The following is the official list of passes at the recent examinations for degrees in medicine and surgery:—

First professional examination.—M. I. Ali Khan, John Allan, D. I. Anderson, C. T. Ayana, E. A. Aylward, J. W. H. Babington, R. B. Burnetson, J. R. Bartholomew, W. J. Basson, Benjamin Baty, W. P. Beattie, D. W. Boswell, F. T. Bowerbank, F. R. Bremner, M.A., David Brown, W. S. Murdoch Brown, L. G. Bruce, G. L. Brunton, Mary T. Cameron, T. F. Campbell, T. E. Carlyle, V. T. Carruthers, Mildred M. L. Cathels, R. A. Chapman, W. P. Chrystall, D. M. C. Church, Lizzie M. S. Clark, John Clarke, M. L. Cohen, B.A., A. G. Coullie, T. E. Coulson, James Craw (with distinction), G. A. Davies, Robert Donaldson, M.A., S. E. Douglas, C. E. Dumanoire, E. J. Elliot, Hugh Ferguson, J. M. R. Flament, W. H. Foxsyth, W. J. Fraser, N. J. H. Gavin, H. V. Goldstein, Eleanor A. Gorrie, Percy Gosnold, B.A., Thomas Gowans, J. M. Graham, William Grant, W. W. Greer, E. J. Griffiths, Elizabeth C. Gunn, T. M. Guthrie, P. A. Harry, A. W. Hogg, M. A. Huk, M. M. Huk, J. H. Hume, K. U. A. Innis, Ada Jackson, John Jardine, William Jarvis, J. M. Johnston, J. H. H. Joubert, G. P. Joy, S. F. Jung, G. F. S. Landon, F. E. Larkins, S. W. S. Leary, A. G. Leitch, A. J. Lewis, C. W. Lewis, B.A., James Lochhead, M.A., D. H. C. MacArthur, S. A. M'Clintock, William M'Conaghy, J. S. MacDonald, J. W. M'Ewan, J. P. M'Gowan, M.A., H. R. Macintyre, James Mackenzie, Amy M. Mackintosh, William MacLaren, Neil M'Leod, Alexander MacRae, M. M. Mamourian, L. S. Milne, K. A. Moody-Stuart, W. M. Munby, D. S. Murray, A. W. Neill, C. D. O'Neal, Armand Pampellonne, Bernard Pickering, Florence M. S. Price, D. S. R. Rao, H. S. Reid, Margaret H. Robertson, Thomas Robertson, Joseph Robinson, B.Sc., S. C. Roy, C. S. Ryles, A. I. Shepheard-Walwyn, F. R. Sinton, L. H. Skene, C. J. Smith, E. H. Smith, G. M. Smith, R. A. L. van Someren, Patrick Steele, George Stewart, H. M. Thompson, Archibald Tedrick, Rose C. Townend, Caroline Twigge, G. H. Ussher, F. L. de Verteuil, William Waddell, Thomas Walsh, R. H. Watt, W. H. Welsh, D. W. Wilton, W. B. Wishart, Thomas Wright, and Margaret C. W. Young, M.A.

Second professional examination.—Farhat Ali, W. L. L. Alston, Lewis Anderson, W. W. Anderson, R. G. Archibald, James Arthur, Nina H. Beath, Constance A. Bennet, J. G. Briggs, W. A. Brown, G. G. Buchanan, W. C. Burton, E. E. Cassaday, R. V. Clark, M.A., Maurice Davies, A. R. Douglas, C. B. Drew, Percy El-Karey, John Fairbairn, A. B. Flett, Agnes J. Gardner, P. E. H. Guiseppi, W. L. M. Goldie, R. G. Gordon, Philip Hallam, D. J. Hamman, Frances M. Harper, A. O. Hooper, William Hume, John Hunter, Arthur Hutley, Bertha Jex-Blake, Saiduzzafar Khan, E. A. King, W. E. Knight, Hermann Kramer, Vivian Langmore, Abraham Leach, Duncan Lorimer, A. W. B. Loudon, W. F. Macdonald, Daniel Mackinnon, S. W. Maclean, J. J. M'Millan, E. L. Meynell, R. C. Monnington, A. E. Morton, E. J. Morton, P. H. Mules, R. S. Munro, Frank O'Neill, Sophie Palmer, Herdman Porter, E. C. Prichard, Agnes M. Pringle, A. M. Pryce, A. F. H. Rabagliati, J. J. Redhead, E. M. Reece, R. E. Russell, C. W. V. Rutherford, David Sandler, Meurice Sinclair, G. W. R. Skeen, G. D. Sloan, D. W. Standley, Elbert Steyn, G. C. Trotter, Philip Vickers, J. F. van de S. de Villiers, John Wallace, B.Sc., George Wright, and E. E. Wood.

Third professional examination.—D. M. Aitken, M.A., R. V. C. Ash, J. W. Barrack, E. S. Brett, D. G. Carmichael, A. W. S. Christie, R. V. Clark, M.A., H. L. Clift, W. I. Dunn, O. J. Evans, A. H. Firth, G. A. Forrest, Robert Hamilton, P. J. Hay, John Jamieson, G. A. Jolly, E. W. Lewis, C. H. Lindsay, Samuel Lyle, Harriet E. M'Cloghry, H. K. Macdonald, Wilfrid M'Farlane, N. F. MacHardy, George M'Neill, Thomas Mill, Robert Morison, William Murray, J. G. Peebles, E. T. Potts, L. T. Price, F. L. Rigby, J. S. E. Robertson, A. L. Roxburgh, G. W. R. Skeen, C. W. Somerville, B. A. Spence, C. S. Steavenson, I. S. Stewart, G. C. Strathairn, John Sullivan, H. P. Thomson, E. J. Tyrrell, A. G. Waugh, and Ada Wilkinson.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Professor A. Born of Breslau, aged 50 years. His subject was anatomy and more particularly embryology.—Dr. Moussier, surgeon to the Nantes hospitals.—Dr. Skene, formerly Professor of Gynæcology in Long Island College Hospital, Brooklyn.—Dr. Shakespeare, a well-known Philadelphian ophthalmic surgeon.—Dr. Sutuguin, formerly *docent* of Gynæcology in the St. Petersburg Medical Academy.—Dr. John Ashhurst, the well-known American surgeon. He was formerly Professor in the University of Pennsylvania.—Dr. Hermann Dohnberg, Professor of Ophthalmology in St. Petersburg, has been assassinated.—Dr. Kristeller, *privat-docent* of Gynæcology in Berlin.—Dr. B. D. Howard, formerly Professor of Surgery in the University of Vermont.

NEWTON ABBOT WORKHOUSE.—At the meeting of the Newton Abbot (Devon) Board of Guardians held on August 2nd it was reported that £19,000 had been already expended upon the new building. The guardians resolved to apply to the Local Government Board for permission to borrow an additional £5500 for the erection of a new boardroom and also for providing receiving wards and tramps' wards.

THE OWENS COLLEGE.—The council has appointed Mr. F. A. Southam to be Professor of Clinical Surgery in place of Mr. W. Whitehead, who has resigned, and Mr. G. A. Wright to be Professor of Systematic Surgery in place of the late Mr. T. Jones. These appointments are subject to the confirmation of the Court of Governors which will meet in October. The council has also appointed Mr. W. Thorburn to be Lecturer in Operative Surgery and Mr. Joseph Collier to be Lecturer in Practical Surgery.

PRESENTATION TO A MEDICAL MAN.—In connexion with the legal proceedings taken against him twelve months since (which resulted entirely in his favour), the heavy law expenditure which he incurred, and his subsequently failing health, Mr. James Joseph Tracy, M.B. R.U.I., of Cork, has just been presented with a testimonial. At a recent meeting of his professional brethren it was unanimously resolved to present Dr. Tracy with an address and a purse of sovereigns as tokens of sympathy and esteem. Dr. N. J. Hobart made the presentation on behalf of the subscribers.

INOCULATION FOR THE PLAGUE.—The annual report of the Presbyterian Mission Hospital at Miraj, under the charge of Dr. W. J. Wanless, has just been issued. In reality it deals with parts of the years 1898 and 1899. For three and a half months in 1898 and the early months of 1899 plague prevailed in the town of Miraj resulting in the practical closure of the hospital and dispensary during this time. A full 12 months' work in either year could not therefore be recorded. With regard to the plague the report says the great benefit derived from inoculation is evident from the following: there were among the once inoculated 39 attacks and 22 deaths, and among the twice inoculated two attacks and one death. The population in the town and fields of uninoculated persons from Sept. 13th, 1898, to March 13th, 1899 (six months), could not have been less than 1300. Among these uninoculated persons there were 1314 attacks and 1092 deaths, a rate (to the population) of 10·1 per cent. of attacks and a rate of 8·4 per cent. of deaths, and a percentage of 83·1 of deaths among the attacked, while among the once inoculated the rate of attacks (to the population) was 1·9 per cent., and of deaths 0·8. In the twice inoculated the rate of the attacks was 0·4 per cent., and the rate of deaths 0·2 per cent. The total number of inoculations against plague with Haffkine's prophylactic serum performed in this dispensary to Dec. 31st, 1899, was 4274.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, AUGUST 2ND.

The Vaccination Question in Scotland.

MR. EDMUND ROBERTSON asked the Lord Advocate whether his attention had been called to the recent conviction in the Dundee Sheriff Court of a number of men for failing or refusing to have their children vaccinated, and to the fact that accused pleaded conscientious objections, and on conviction preferred to go to prison rather than pay the fines imposed; whether similar cases have occurred in other parts of Scotland; and, whether, having regard to the difference now existing between the laws of England and Scotland on this matter, and to the dissatisfaction created thereby, the Government would consider the question of the amendment of the laws of the two countries on this matter.—The LORD ADVOCATE replied: I have seen a report of the Dundee case referred to and I am aware of similar cases in Aberdeen and Kirkcaldy. I believe such cases, however, to be very few. In the six convictions at Dundee referred to five went to prison and one paid the fine. One of the five paid the fine *pro tanto* after a detention of one day. I have reason to believe that there is a great preponderance of opinion in Scotland in favour of the existing law, and the Government do not propose to consider the question of assimilating the Scotch law to the English law.

Water Filters for South Africa.

Dr. FARQUHARSON asked the Under Secretary of State for War whether, considering the spread of enteric fever in South Africa, he would consider the possibility of increasing the number of pocket Rustem filters served out to the troops on active service there.—Mr. WYNDHAM replied: No filters of the kind referred to have been issued

the troops. The only filters that have been issued are of the Berkefeld and Stack and Brownlow type.

FRIDAY, AUGUST 3RD.

Vaccination Questions.

Mr. HEDDERWICK asked the President of the Local Government Board how many calves were kept by the department as reservoirs of lymph for vaccination purposes; how many of the animals so used were sold annually as food for the people; and where the sales took place.—Mr. CHAPLIN replied: The average number of calves now vaccinated weekly at Lamb's Conduit-street is 17. All the calves from which lymph has been collected are, within the next few days, slaughtered under veterinary supervision and the calves passed on veterinary authority as sound are sold in the Central Meat Market, Smithfield.—Mr. CHANNING asked the President of the Local Government Board whether, seeing that the opinion of the law officers of the Crown, based on the case of Bramble *v.* Lowe, by which he had justified the action of the Board in treating vaccination officers as servants of the Board and not as subject to the directions of the guardians, referred only to prosecutions under Section 31 of the Act of 1867, the opinion of the law officers had been taken on the extension of this practice of ousting the power of the guardians to direct the proceedings of their vaccination officer to prosecution under Section 29 of the Act of 1867; and whether he would give the opinions of the law officers as a parliamentary paper.—Mr. CHAPLIN replied: The hon. Member is under a misapprehension in supposing that the Local Government Board have treated the vaccination officers as their servants. As the Board explained in their circular of Oct. 21st, 1898, the power and the duty of taking proceedings are vested in the vaccination officer under the Vaccination Act passed prior to the Vaccination Act of 1898 without any order of the board of direction from the guardians. The opinions which the law officers have given to this effect referred to prosecutions both under Section 29 and Section 31 of the Vaccination Act, 1867; but it would be opposed to the established practice to publish these opinions.—Mr. WOODS asked the President of the Local Government Board whether he was aware that the minimum fees fixed by the Vaccination Order, 1898, pressed heavily on the local ratepayers at Wigan and other places, and that there was paid in the Union of Wigan for the year ending Lady Day, 1898, £516 9*s.* 5*d.*; for the year 1899, £433 5*s.*; and for the year 1900, £1541 7*s.* 7*d.*; and whether, in view of these charges, he would consider the whole matter with a view of placing them on a more reasonable basis.—Mr. CHAPLIN: We have not got the figures for 1900 which show the increase in expenditure at Wigan, but the establishment of a system of domiciliary vaccination has necessarily added to the cost of vaccination, as the duties of the officers have in consequence been very considerably increased. Moreover, the amount of the fees to some extent depends on the number of successful vaccinations, and I am glad to say that this number has been largely augmented since the Vaccination Act of 1898 came into operation. In the Wigan Union there was an increase of about 60 per cent. in the number of successful vaccinations in 1899 as compared with 1898. I have, however, received other representations on this matter and I am, as I always have been, willing to consider whether an alteration should be made in the minimum fees prescribed by the vaccination order; but I think we should have some further experience before determining whether this course ought to be adopted.

Pollution of the Thames.

Viscount SANDON asked the President of the Local Government Board whether his attention had been called to a recurrence of pollution of the river Thames near the sewage pumping stations at Halfway Reach and Barking Reach; and whether he would cause the necessary steps to be taken to obtain an abatement of the nuisance as a precaution against danger to health of those engaged upon the river.—Mr. CHAPLIN replied: I have made inquiry on this subject and I am informed that it is the recent hot weather which is mainly responsible for the nuisance complained of in the part of the river referred to in the question. I learn from the London County Council that they are fully intent on further improving the condition of the river and that they have undertaken several large works with that object. The Local Government Board have no power to take any steps in the matter.—Mr. STEPHENS asked the President of the Local Government Board (1) whether his attention had been called to the fact that during the year 1899 33 sewage overflows discharged sewage into the Thames on its northern side within the London area; and (2) seeing that such discharges of sewage were liable to take place whenever the rainfall exceeded one-tenth of an inch and that the existing obligations of law compelled local authorities to admit the combined drainage of sewage and water to their sewers, whether, in the next session of Parliament, it was his intention to introduce a Bill to enable the local authorities to keep separate, if they desired to do so, the sewage and the water drainage of their districts.—Mr. CHAPLIN replied: No, sir; my attention has not been called to the facts referred to and I have no information to show how far they are as suggested in the first paragraph of the question. With regard to the second paragraph, local authorities have the power to provide, and they have in some instances already provided, separate systems for sewage and water drainage. The further legislation suggested on the subject, it appears, would raise questions of considerable importance which would involve heavy expense, and in any case I am not prepared to give any pledge with regard to legislation next session.

Enteric Fever in South Africa.

Sir WALTER FOSTER asked the Under Secretary for War for the figures as to the number of admissions at Bloemfontein and Kroonstad for enteric fever during certain weeks and the number of deaths.—Mr. WYNDHAM replied: The figures are as follows, viz., Bloemfontein, week ended June 8th, 487 admissions, 98 deaths; week ended June 15th, 213 admissions, 64 deaths; week ended June 22nd, 221 admissions, 52 deaths. Kroonstad, week ended May 25th, six admissions, no deaths; week ended June 1st, 83 admissions, 12 deaths; week ended June 8th, 18 admissions, 18 deaths; week ended June 15th, 66 admissions, 11 deaths.

MONDAY, AUGUST 6TH.

The Remuneration of Civil Practitioners in South Africa.

Mr. ELLIS GRIFFITH asked the Under Secretary of State for War whether his attention had been called to the fact that civil medical officers in South Africa did not get colonial allowance, though such allowance was allowed to every other person now serving in the British army in South Africa; and whether he would take steps to remedy this state of affairs.—Mr. POWELL WILLIAMS, replying for Mr. WYNDHAM, said: The civil medical practitioners engaged for service in South Africa are paid according to the special terms for which they engaged—viz., pay at £1 a day, field allowance at 3*s.* 6*d.* a day, servant's allowance, Government horse with forage, and field rations while in the field, with a gratuity of two months' pay at the expiration of their contract. They accordingly receive higher emoluments than many of the officers of the Royal Army Medical Corps. The Secretary of State for War sees no reason for making any addition to their emoluments.

The South African Commission of Inquiry.

On the motion for the second reading of the Appropriation Bill Mr. BURDETT-COUTTS complained that there had been no opportunity for discussing the constitution as a whole of the Commission appointed to inquire into the care and treatment of the sick and wounded during the South African campaign, but without going into the question then the hon. Member set himself to show that the Commission was without the powers essential to bringing out the whole truth, and that the great interests involved in the inquiry would be imperilled, if not defeated, by the course which had been followed. The Commission, he said, had neither the power to take evidence on oath nor to compel the attendance of witnesses and consequently went forth at the mercy of one side and one interest in the inquiry and that the interest and side most involved in its own exculpation. The Commission had gone out to South Africa where nine-tenths of the evidence in the case was under the control of the Army Medical Department or some other department of the War Office. Their hand reached over the whole field of witnesses and of course they would organise the evidence and select the witnesses. While on the one side there would be this powerful organisation, on the other there would be absolutely nothing except the voluntary act of witnesses 99 out of 100 of whom believed, rightly or wrongly, that their future would be prejudiced by coming forward. The hon. member read to the House extracts from a number of letters by military and civil surgeons and others, in which reference was made to the apprehended consequences of coming forward with evidence, and, in conclusion, he asked the Government whether it was not still possible to increase the powers of the Commission.—Mr. BALFOUR, in reply, said that there had been few commissions with the power of taking evidence on oath and compelling the attendance of witnesses, and he pointed out that if this Commission had received such power it would have found it difficult to exercise it in self-governing colonies. As to the other issues, he thought that the hon. member was very ill-advised in raising them, especially at this time, when the Commission had embarked upon its inquiry and after the hon. member had himself been examined before the Commission.—Sir WALTER FOSTER expressed the opinion that the Government had taken too narrow a view of this inquiry. For himself he had no desire to obtain the slightest party advantage one way or the other, but he did desire that they should have a searching inquiry and get full knowledge of how it came about that their heroes in Bloemfontein were allowed to die in hell-tents in the manner described by the witnesses before the Commission. To this knowledge every citizen was entitled. With regard to the general situation he considered it was an enormous blot upon the campaign that there should have been between 16,000 and 17,000 cases of typhoid fever amongst our troops; to him that circumstance was enough to show that there had been something wrong in the administration in South Africa.—Colonel BLUNDELL, speaking as an old soldier, said that he had every confidence that the Commission would conduct a proper inquiry and arrive at a proper conclusion.—The House then proceeded to the discussion of other subjects.

TUESDAY, AUGUST 7TH.

Inoculations at the Brown Institution.

Mr. MOSS asked the Home Secretary if his attention had been called to a statement by the superintendent of the Brown Institution that the inoculations with rabies performed in that institution were of no use except for the purpose of compiling statistics; and whether, seeing that these inoculations with rabies inflict suffering on a number of animals, he would take the necessary steps to prevent their continuance in that institution in future.—Sir MATTHEW WHITE RIDLEY replied: The superintendent of the Brown Institution states that the question does not accurately represent any opinions expressed by him. He considers that the inoculations referred to afford the only means of determining the existence or non-existence of rabies in a suspected animal.

The Increase of Vaccination in England.

Sir WALTER FOSTER asked the President of the Local Government Board whether he could state the number of certificates of successful primary vaccination received by the vaccination officers during the year 1899 as compared with 1898, and the number of such certificates received for the first six months of this year as compared with the similar period of the years 1898 and 1899.—Mr. CHAPLIN replied: The number of certificates of successful primary vaccination received by vaccination officers during 1899 was 669,349 as compared with 500,314 during 1898, being an increase of 169,035 or 33·9 per cent. I have not received returns as to the number of such certificates during the first six months of the present year.

Medical Reinforcements for South Africa.

Sir WALTER FOSTER asked the Under Secretary of State for War if he could state the strength of the reinforcement of trained men of the Royal Army Medical Corps which it had been recently decided to send out to South Africa.—Mr. WYNDHAM replied that the strength of the reinforcements was 300.

The Remuneration of Civil Practitioners in South Africa.

Mr. WYNDHAM, replying to questions on this subject, said: The position of these gentlemen differs in one important particular from that of officers of the Royal Army Medical Corps. The latter receive rates of pay which are calculated with reference to the general services which they have to perform at all times and in all parts of the world. The conditions of the present war are, however, unusual as regards the specially high cost of living in South Africa, and it was therefore thought reasonable that special colonial allowances should be granted to them to enable them to meet this extra expense. The case of the civil surgeons is quite different. They made a special

contract for service in South Africa during the present war, and there is, therefore, nothing unforeseen in the conditions of their service which we feel called upon to meet by an alteration in their favour in the terms of the contract. As a matter of fact, they receive higher emoluments than many of the officers of the Royal Army Medical Corps. My attention has been called to the fact that civil veterinary surgeons are receiving colonial allowances. That is so, the reason being that they are paid at the rate of army veterinary surgeons and not at a special rate calculated with a view to the present war.

WEDNESDAY, AUGUST 8TH.

The South African Commission of Inquiry.

Mr. EDMUND ROBERTSON asked the Leader of the House whether he could give any estimate of the time when the report of the Commission on the care of the sick and wounded during the South African campaign might be expected.—Mr. BALFOUR replied that he had no authoritative estimate but he knew that the Commission did not anticipate that the South African inquiry would occupy any very considerable time.

THE SOUTH AFRICAN COMMISSION.

WEDNESDAY, AUGUST 1ST.

THE Commission appointed to inquire into the care and treatment of the sick and wounded in the South African campaign resumed their sitting, with Lord Justice ROMER in the chair, at Burlington House, this being their last meeting in London before going out to South Africa. The meeting lasted for about six hours and a large number of witnesses were examined.

The CHAIRMAN at the start made an explanatory statement with regard to the conduct of the proceedings of the Commission. So far, he said, the whole of the evidence had been taken in presence of shorthand writers and made public, and this practice would be continued except in certain circumstances. It had been stated to the Commission that some witnesses who could give useful evidence might be deterred by fear of consequences from coming forward and giving information. The Commissioners had felt some difficulty with regard to this subject, but they were determined that information should not be withheld from them on any such ground and on consideration they had come to the conclusion that the names of witnesses who felt this apprehension or the particulars by which they could be identified should not be printed or published if they so desired it. The Commissioners, however, would take care that witnesses should not be permitted to use the withholding of their names as a cloak for making personal attacks upon individuals.

Mr. R. O'CALLAGHAN said in the course of examination that he went out to South Africa as surgeon-in-chief of the Langman Hospital. At Cape Town, where they were detained for several days, he visited the base hospitals and he could say of them that they were as absolutely perfect as one could expect or wish for. They reached East London on March 26th, and though all the while they were urging the authorities to hurry them forward they did not disembark until the day after the arrival of the ship. The railway authorities at East London were quite alive to the urgency of hospital aid at Bloemfontein, for they had a special train to take forward the Langman Hospital, but all along the line they found themselves being thwarted by the military authorities whose great anxiety was to get through military stores. They had to leave East London without two of their trucks. As for those they got away, it was with the greatest difficulty that they got them forward; they had practically to sit on them and say that if the trucks did not go forward they themselves would not move. If they had not done this the trucks would have been turned into sidings. After a journey of three or three and a half days they reached Bloemfontein on April 2nd, and owing to the other stores not arriving from East London they were absolutely useless for four days. No words were strong enough to describe the dilatory fashion in which the stores of the Langman Hospital were treated, for it must be remembered that the cry for hospitals at Bloemfontein at this time was almost as urgent as the cry for help from the Legations in Peking. The Langman Hospital was intended for 100 beds, but there was such a rush of cases that they took over 50 more beds; before taking these over, however, they made it a condition that they should have utensils and nurses for them. Before leaving this country they applied to the War Office and the Director-General to be allowed to take nurses, but they were refused, though when they got to Bloemfontein they received the services of nurses. At Bloemfontein there were utensils and other things they could not get from the authorities, but fortunately Mr. Langman was with them and he went and bought the things at his own expense. That, witness thought at the time, was rather hard lines considering that they were in the enemy's country. In the hospital everything went smoothly and successfully once it had been started, and so far as he was aware nobody had any cause for complaint. They never got all the fresh milk they wanted. He believed that if a due proportion of medical stores and equipment had been allowed to come up the railway a great deal of the criticism passed upon the medical arrangements would never have been heard. He saw two field hospitals near the Langman Hospital at Bloemfontein. They had been turned into stationary hospitals and no doubt there were overcrowding, undermanning, and want of nurses. While he said that he also said that no men could have worked harder than did the officers in these hospitals. The want of stores he put down to culpable leniency shown to the Free Staters.

Lieutenant C. A. LEE of the New South Wales Mounted Rifles gave evidence as to the excellence of the treatment he received in various hospitals whilst suffering from enteric fever. He said that he had the hospitals to thank for being able to appear before the Commission.

Captain THOMPSON of the 1st Australian Horse said that he became ill with dysentery and enteric fever in May between Kroonstad and Johannesburg and the regimental surgeon did all he possibly could for him. Witness was anxious to get on to Pretoria and he kept up the march, the surgeon being hopeful of staying the progress of the trouble. When, however, an engagement was expected witness was ordered back to Kroonstad, to which place he was conveyed in a Scotch cart with another officer. They found the hospital full and they were accommodated in a hotel which was turned into a hospital. There were 100 odd officers in this hotel, which had two surgeons, two trained orderlies, and some convalescent men who assisted in attending the patients. When they left Bloemfontein nobody thought there would be so large a number of cases of enteric fever and dysentery. The patients got all the care and attention they could reasonably expect under the circumstances. They had fresh milk when it could be got and always condensed milk. He knew of cases of beds, mattresses, and other things in the houses of the town being requisitioned. What struck him most of all was the wonderful amount of work got through by the medical men. Many regimental surgeons, especially after an engagement, were out all night with the wounded and on the following day they were employed with their batches of sick. Witness was in command of a squadron of cavalry attached to General French's division, and he really thought the medical men were too solicitous about the men's health and unnecessarily reduced the commands.

Mr. RUDYARD KIPLING, the next witness, said that he landed at Cape Town on Feb. 5th, and from then until the end of the month he was generally in and out of the Cape Town hospitals. He talked with the medical officers, asking them amongst other things whether they had everything they required for their patients. They replied that there was no particular strain upon the hospitals and that they had everything they wanted. When he spoke to the nurses and said that he could get things from the Absent-Minded Beggar Fund, they said that they wanted pyjamas very badly, but they added "Don't send them to the store issue department, for they will never come out; bring them to the back door." They were taken to the back door in a Cape cart and given over quietly to the nurses, and thus they reached the patients without any delay. In this way pyjamas were also supplied to the hospital train. It was reported to him indirectly that there was no medicine in the Maitland Hospital beyond a little boric acid and some quinine pills, and from the Absent-Minded Beggar Fund he sent over a few pounds' worth of medicines. They were sent privately, in the same fashion as the pyjamas, but, of course, they were given not to the nurses but to the surgeons. What he did was with the object of saving time. He saw the wounded in a hospital train coming down from the front. There was nothing bad there and everybody seemed to be working very hard. When he got to Bloemfontein, the enteric fever was only beginning and there was no strain upon the medical arrangements. He could see, of course, that there was no enthusiasm about sick cases; they were slow and uninteresting, whilst wound cases were interesting and quickly cured. When he returned to Cape Town, he went over the hospitals again. He found them perfectly clean and everybody was working very hard, but there was always this quiet complaint about the persistent slowness in getting what was required. He did not visit the Woodstock Hospital; he saw it from a distance, and the place was simply unspeakable; the air was foul and stank.

Colonel MULCAHY, the officer in charge of the Royal Army Clothing Department, presented to the Commission a series of tables showing the quantities of supplies of hospital clothing sent out to South Africa. These tables, the CHAIRMAN said, he and his brother Commissioners would examine and study during the voyage out. With regard to stationary and general hospitals Colonel MULCAHY said that in every case they shipped with them 50 per cent. of reserve in addition to the equipment. If the complement of gowns for a stationary hospital was 100 they put 150 on board. The only case where in the tables it might appear there was delay in meeting requisitions was a case where certain shirts were wired for on March 25th and a portion of these shirts were not sent out until July 21st. That meant that the particular pattern of shirt used in the hospital was not sent out, but other patterns were sent out to the number of over half a million. What were sent out were not hospital pattern shirts, but others which were practically as useful. The requisitions were quickly answered. Where they could not supply the exact article asked for they substituted other items. For instance, when a certain number of gowns could not be supplied they sent waistcoats instead. Pyjamas were not a recognised article of military hospital clothing; they had not been approved by the authorities at home; but a flannel shirt and a pair of drawers were the regulation for the military hospital and these could be used as pyjamas, and ample supplies of both articles had been sent to South Africa.

Mr. J. A. MORRISON, M.P., lieutenant in the Grenadier Guards, gave an account of his hospital experiences at Modder river and Wynberg, his general comment being that he noticed nothing deserving of complaint.

Mr. G. L. CHEATLE said that he arrived at the Modder river on Jan. 31st and found the hospitals there working perfectly. He saw no patients lying on the floor or without beds. He was there two months altogether. Lord Roberts put a hospital in his hands with the object of treating the cases of the more severely wounded. He saw the wounded from Paardeberg and Kimberley. On one day 779 cases arrived from the former place. They were all put in bed, but they were mostly afterwards sent off by train. After the first 24 hours there were no deficiencies whatever. He bought the necessary things and fed the patients, and they wanted for nothing. After the two months at the Modder river he went to Kimberley and afterwards to Bloemfontein. At the latter place he saw the Guards Brigade hospital; it had 400 patients and was very much crowded. They were a mixed lot of cases of enteric fever and dysentery, but no wounded at all. They were housed in bell-tents, marquees, and iron buildings. All the tents were entrenched and the men had mackintoshes and blankets, and in some cases red pyjamas. They complained very much of being overcrowded. They did not get any fresh milk that he knew of. The surgeons complained of the amount of work. He advanced from Bloemfontein with General Pole-Carew. When men got wounded and required treatment he stopped behind and looked after them in the Boer houses. The wounded were very well attended to in that advance and got everything which they required. Witness was with the advance to Pretoria all the time and of course passed through Kroonstad. He could only speak as to the care of the wounded; he could not speak of the typhoid fever or dysentery cases. As far as the treatment of the wounded was concerned, they had everything—plenty of dressings—and he never had any difficulty whatever. They had sufficient orderlies, and whenever they left a man behind they left with him a surgeon and an orderly. He was for two or three days outside Pretoria. Then he went on to Silvertown and brought back

the wounded to Pretoria and then he came home. At no time did he feel hampered by the want of medical equipment.

Lieutenant-Colonel F. BARROW, A.M.S., Principal Medical Officer of No. 9 General Hospital said that the hospital was equipped at the Albert Docks, London, for 500 rank and file and 20 officers and that it reached Bloemfontein about April 7th. Owing to the block in the railway service they had to wait for 10 or 12 days for the arrival of the equipment. The railway people said that they would forward it from Port Elizabeth and then it only came in driblets. What was said was, food first, then ammunition, and then medical equipment, and of course witness agreed with that view of the case. They were practically without anything to do for a fortnight. As he said, they were equipped for 520 patients, but they got 1500, 1600, and 1800 patients dumped down upon them. They had 88 marquees, and he asked for 25 more and got them: it was all they had. They had a surplus of sick mild cases. They requisitioned bell-tents for them and got them at once, and into each bell-tent they put two or three patients, but no serious cases. If cases became serious they were sent from the bell-tents to the marquees. He considered that the hospital was very fully equipped. He had been on service three or four times and he never saw a more complete hospital. They got beds made locally and on these they put mattresses in the bell-tents. All the marquees had proper spring mattresses. In the bell-tents they had the improvised local pattern of bed, with locally provided mattresses which answered very well. Their water-supply was inadequate owing to the break-down of the waterworks. They were entitled to 60,000 gallons of water per day and they found difficulty in getting 6000 gallons from two wells. They were told to boil the water, but they had no firewood and there were no trees to cut down. This state of things lasted for three weeks until they got a supply of coal and wood from the base. Naturally they ran short of regulation army stores. They had to requisition persons who were not trained orderlies, but they did their best and, indeed, did very well. He went morning, noon, and night round the tents and asked for complaints and he never heard one. He heard one patient say to General Kelly-Kenny that he had had nothing to eat for eight days, but as a matter of fact this man had had 11 pints of liquid, and because it was not solid food, which was not indicated in his case, he considered that he had had nothing to eat. What he had had consisted of bovril, beef-tea, milk, and jellies. Witness himself used to sleep in a bell-tent. He personally stopped the supply of fresh milk because of the risk of contamination owing to the dirty habits of the Kaffirs. He preferred the condensed unsweetened milk because it was impossible to contaminate it. They had tons of condensed milk, and 2000 or 3000 tins of it were used every day. As to the men's rations, there were frozen mutton and fresh meat, and very often they had to bury it because, although the ration had been drawn, the patient was unequal to eating it. War meant waste, and, no doubt there was waste in this connexion. Later he issued orders not to draw the full rations because they had milk, bovril, and medical comforts taking their place. As to the bell tents they had no overcrowding at any time in connexion with No. 9 Hospital. In fact, he never saw a thing more splendidly done by the Government, and goodness knew what the bill would be. The officers and the rank and file had exactly the same treatment as far as medical comforts were concerned. There were lots of patients who arrived with absolutely nothing the matter with them. There was one orderly to three tents, and when there was very little the matter with the patients that was quite sufficient. If there had been any water on the floor of the tents he should have seen it. The fact was they were on a slope and the site had been chosen by a board of army medical men. He had not sufficient trained men because no one had anticipated such a rush of sick. He did not see Mr. Burdett-Coutts at the hospital; if he was there he ought to have had a pass. As to the buildings in the town being taken for hospital purposes they were pesthouses. It was far better to treat a man in the open air than in an insanitary room. There could be no doubt that the houses were insanitary and the bucket system as carried out in South Africa was simply abominable. He would not put cattle into some of the houses. They had a large staff of female nurses in the marquees, and the reason why they had not them in the bell tents was that they were not required for mild cases. He confessed that they were short of utensils. As for blankets he got plenty of them; he requisitioned 2000 on one day and got them at once.

Dr. CHURCH: We have had it suggested that the officers did not like to ask for what they wanted.

Lieutenant-Colonel BARROW: If I did not get what I wanted there was a row. I never asked for anything that I did not get. I asked for transport and they said it was impossible, but I got it all the same. I got my own transport. I think that a field hospital will never be complete until it has its own transport. I got my transport after a personal interview and explaining the difficulty.

Dr. CHURCH: You had a lot of trouble about the returns?

Lieutenant-Colonel BARROW: Well, I neglected most of the returns and the statistics also. I got many urgent telegrams from Cape Town asking "where are your returns?" I took no notice of the telegrams.

The CHAIRMAN: Were they unnecessary and cumbrous?

Lieutenant-Colonel BARROW: They were necessary, but there is great difficulty in furnishing them when working at high pressure.

Dr. CHURCH: Did you ever see 10 men in a bell tent?

Lieutenant-Colonel BARROW: Never. I went round frequently in the day and dodged round and looked into them. There might be 10 in a tent from a train arriving at three in the morning, but they would not be there long after daylight.

Dr. CHURCH: Are the men afraid to make complaints?

Lieutenant-Colonel BARROW: No, they are only too anxious to make them.

Captain DUNCAN STEWART of the Royal Canadian Foot Regiment stated in the course of examination that he had an attack of malarial fever at Pretoria, went into hospital there, and could not speak too highly of the medical men and the nurses.

Mr. STROMEYER LITTLE said that he went out to South Africa not in the public service but as a visitor. As a visitor he was very favourably impressed with the hospitals, but when he came to work in one he found things were a little different. In his opinion the great bulk of the private hospitals were superior to the military hospitals. He went to Bloemfontein in the beginning of May and worked in No. 9 Hospital, where he had charge of 10 marquees. The bell tents were overcrowded, but he could not say positively how many patients there were in them because the men moved out during the day. There undoubtedly was a want of bed-pans, and many patients probably lost their lives in consequence. The condensed milk was very poor. He thought there ought to have been fresh milk.

The CHAIRMAN: But Colonel Barrow, who was in charge, told us he would not have fresh milk because it was dangerous.

Mr. LITTLE: The condensed milk was certainly liable to contamination because you had got to mix it with water, and there were millions of flies about and this water was open to them. When he got down to Port Elizabeth he found responsible people who were ready to guarantee a thousand bottles of sterilised milk per day, and he wrote to No. 9 Hospital on the subject, but received no answer.

Captain TRYON gave evidence to the effect that he had been a patient in a hospital at Bloemfontein, travelled in a hospital train, and received treatment in a hospital at Wynberg, and was fairly well looked after in all these positions.

Lieutenant-Colonel COOPER of the Irish Guards, who had been engaged as a railway staff officer, spoke as to the difficulties experienced in the transport of the sick and wounded owing to the pressure of traffic for the fighting line.

Major A. P. BLENKINSOP, R.A.M.C., said he went out with No. 10 Field Hospital. His first duty was outside Bloemfontein, where the hospital was fully equipped, and where they had 106 cases of enteric fever and dysentery. The patients were well looked after and got their food. Finding some difficulty about the fresh milk he told the farmers that if they did not supply him he would commandeer their cows and send the owners to prison in Bloemfontein, and after that there was no more difficulty about fresh milk. For sick convoy purposes he suggested that there should be made up special boxes containing medical comforts, jellies, and the like, and with regard to field hospitals he thought that they should have their own transport.

Mr. A. K. BURN of the City of London Imperial Volunteers gave evidence as to his treatment for enteric fever in one of the field hospitals.

The Commission then adjourned.

The Secretary (Major TENNANT) intimated that the visit to South Africa will probably occupy two or three months, and that on its conclusion further evidence will be taken in London.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ALDERSON, WILFRED E., M.D., M.S. Durh., has been appointed Honorary Physician to the Newcastle-on-Tyne Dispensary.

ANDERSON, THOMAS MCCALL, M.D. Glasg., has been appointed Professor of Practice of Medicine in the University of Glasgow, vice Professor Sir W. T. Gairdner, retired.

ATKINSON, C. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Workhouse, East Ashford Union, vice C. S. Atkinson, deceased.

BEACHCROFT, F. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District and the Workhouse of the Petworth Union, vice R. J. McDermott, resigned.

BISSET, A., M.B., Ch.B. Aberd., has been appointed Resident Physician to the Royal Infirmary, Aberdeen.

BLAKISTON, F. C., L.R.C.P. Lond., M.R.C.S., has been appointed Junior Assistant Medical Officer for the Infirmary of the Wandsworth and Clapham Union, vice C. Powell.

BLYTH, M. W., has been appointed Public Analyst for the County Borough of Brighton, vice E. H. Moore, resigned.

BOYD, STANLEY, M.B. Lond., F.R.C.S., has been appointed Surgeon to the Hospital for Consumption, Brompton, vice R. J. Godlee, resigned.

COOKE, L., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Aspull Sanitary District of the Wigan Union.

COWIE, WILLIAM, M.B., C.M. Aberd., has been appointed Medical Officer for the Charlton Sanitary District of the Woolwich Union, vice J. Logie, deceased.

CROLL, W. F., M.B., Ch.B. Aberd., has been appointed Resident Physician to the Royal Infirmary, Aberdeen.

CROSSFIELD, A. K., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Dartmouth Sanitary District of the Totnes Union, vice R. W. Soper, deceased.

DAY, F. W. H. L., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health by the Hitchin Urban District Council.

ELLIS, R. SIDNEY, M.B., Ch.B. Edin., has been appointed Assistant Resident Medical Officer to the St. Mary's Children's Hospital, Plaistow, E.

GOURLAY, F. T., M.B., C.M. Edin., has been appointed Medical Officer for the Shiffnal and Stockton Sanitary Districts and the Workhouse of the Shiffnal Union, vice T. H. Keogh, resigned.

GRANT, LACHLAN, M.D. Edin., has been appointed Medical Officer to the Ballachulish State Quarries, vice Dr. Farquharson, resigned.

HANCOCK, JAMES TAYLOR, L.R.C.S., L.R.C.P. Edin., has been appointed Medical Officer and Public Vaccinator to the Carlton and Drax District of the Selby Union.

HARDY, F. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Superintendent of the Sheffield City Hospital, vice A. Anderson, resigned.

HARTLEY, J. D., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Slaidburn Sanitary District of the Clitheroe Union, vice J. Sinclair.

HOPKINS, JAMES J., L.R.C.P., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Nos. 1 and 2 Castlebar Dispensary Districts, and the Electoral Division of Bellavady, in the Union of Castlebar.

JOHNSON, H. S., M.R.C.P. Irel., L.F.P.S. Glasg., has been reappointed Medical Officer by the Ashburton Urban District Council.

POLLARD, W. R., M.R.C.P. Edin., L.R.C.S. Irel., has been appointed Medical Officer to the Cottage Homes by the Cottage Homes Committee, Blackburn.

PRITCHARD, R. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Petworth Union, vice R. J. McDermott, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHANTI FIELD FORCE.—Experienced Dressers for six months in the Colony, with pay at the rate of £20 a month, and other money, &c., arrangements. Address to the Assistant Private Secretary, Colonial Office.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum, with an allowance of £30 yearly for cabhire, with furnished room, fire, lights, and attendance.

BRADFORD ROYAL INFIRMARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence. Also Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRECON INFIRMARY, No. 6, Bulwark, Brecon, South Wales.—Resident House Surgeon, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, fire, and gas.

BRIGHTON, HOVE, AND PRESTON DISPENSARY (WESTERN BRANCH AND COTTAGE HOSPITAL), 113, Queen's-road, Brighton.—House Surgeon. Salary £120 per annum, with board and residence.

CANCER PAVILION AND HOME, Manchester.—Surgical Officer.—Applications to Mr. E. W. Marshall, 38, Barton Arcade, Manchester.

CHESTER GENERAL INFIRMARY.—Second Resident Medical Officer. Salary £80 per annum, with residence and maintenance in the House.

CITY OF BOMBAY.—Executive Health Officer for five years, renewable conditionally. Monthly salary arranged.—Apply to the Municipal Commissioner for City of Bombay, care of Mr. John Lithiby, Local Government Board, Whitehall.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—District Surgeons to the Hospital for the Eastern Division of Bethnal Green and for South Tottenham.

COUNTY ASYLUM, Dorchester.—Second Assistant Medical Officer, unmarried. Salary £140, rising to £160 the second year.

COUNTY ASYLUM, Lancaster.—Assistant Medical Officer. Salary commencing at £125 per annum with the usual allowances.

CUMBERLAND INFIRMARY, Carlisle.—House Surgeon for one year. Salary £70 per annum, with board, lodging, and washing. Also Assistant House Surgeon for seven months from Oct. 1st. Salary at the rate of £40 per annum, with board, lodging, and washing.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £100, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL, Thorofare, Ipswich.—Second House Surgeon for one year, unmarried. Salary £70, with board, lodging, and washing.

EYE, EAR, AND THROAT HOSPITAL FOR SHROPSHIRE AND WALES, Shrewsbury.—Surgeon. Honorarium of £150 per annum will be given for three years.

GENERAL INFIRMARY, LEEDS.—House Surgeon and House Physician. The former for 12 months and the latter for six months. Board, lodging, and washing provided.

GROVE HALL ASYLUM, Bow, London, E.—Junior Assistant Medical Officer. Salary £120 per annum, with board, furnished apartments, attendance, and washing.

ISLAND OF GUERNSEY.—Medical Officer of Health. Salary £200 (British currency), with local travelling expenses. Applications to be addressed, "Board of Health," States Office, Guernsey.

KENT AND CANTERBURY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 a year, with board and lodging.

MANCHESTER EAR HOSPITAL.—Clinical Clerkship for a Senior Student for six months. Honorarium 10 guineas.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80, with residence, board, and washing.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with furnished apartments, board, attendance, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch.—Resident Medical Officer for 12 months. Salary £120 per annum, with board, residence, and washing. Apply to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road.—Assistant Resident Medical Officer. Salary £50 per annum, with board, residence, and washing.

NOTTINGHAM CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

OWENS COLLEGE, Manchester.—Additional Demonstrator in Anatomy, for the Winter Session.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London.—House Surgeon. Salary at the rate of 50 guineas a year, with board and residence.

PARISH OF SLEAT.—Medical Officer and Public Vaccinator. Salary £100 per annum. Applications to the Chairman, F. C. Manse, Sleat, Broadford, N.B.

ROYAL HANTS COUNTY HOSPITAL, Winchester.—House Physician, unmarried. Salary £65 per annum, rising to £75, with board, residence, &c.

ROTHERHAM HOSPITAL.—Senior House Surgeon. Salary £105 per annum, with board, lodging, and washing.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, London.—House Surgeon and Registrar for six months, unmarried. Salary at the rate of £100 per annum, with residence and partial board.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon, for one year. Salary £100, with board, lodging, and washing.

RUBERY-HILL ASYLUM, Barnt Green, Worcestershire.—Junior Assistant Medical Officer, unmarried.

STAMFORD-HILL AND STOKE NEWINGTON DISPENSARY, 189, High-street, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board.

SHEFFIELD UNION WORKHOUSE INFIRMARY.—Junior Assistant Medical Officer, at the Workhouse Infirmary, Fir Vale, Sheffield, for one year, unmarried. Salary £50, with furnished apartments, board, and washing. Applications to the Clerk to the Guardians, West Bar, Sheffield.

SURREY DISPENSARY, Great Dover-street, Southwark, S.E.—Resident Medical Officer. Apply to the Secretary, 53, Borough High-street.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies as Certifying Surgeons under the Factory Acts at Witham, in the county of Essex, at Lewisham in the county of London, and at Tyldesley, in the county of Lancaster.

TOTTENHAM HOSPITAL, N.—House Surgeon for six or 12 months. Honorarium at the rate of £20 per annum, with board, residence, and laundry.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the hospital.

VICTORIA HOSPITAL FOR CONSUMPTION, Craigleith, Edinburgh.—Resident Physician. Residence and board and nominal honorarium in lieu of conveyance. Also non-resident Clinical Assistant. Honorarium at the rate of £60 per annum. Both appointments for six months. Apply to the Hon. Secs., 1, North Charlotte-street, Edinburgh.

Births, Marriages, and Deaths.

BIRTHS.

COLDSTREAM.—On August 5th, at Belford, Northumberland, the wife of George Probyn Coldstream, M.B., C.M., of a daughter.

DEMPSTER.—On August 3rd, at Winsley, South Croydon, the wife of W. T. Dempster, M.R.C.S., L.R.C.P. Lond., of a son.

FINNY.—On August 1st, at Tamesa, Kingston-hill, Rosa, the wife of William Evelyn St. Lawrence Finny, M.B. Irel., L.R.C.P. Edin., J.P., ex-Mayor of Kingston-upon-Thames, of a son.

LAWS.—On August 5th, at Car Colston, Nottingham, the wife of W. G. Laws, F.R.C.S., of a son.

MAYBURY.—On August 4th, at Hampshire-terrace, Southsea, the wife of Lysander Maybury, M.D., of a son.

QUILLER.—On August 5th, at S. Paul's-close, Clapham, S.W., the wife of Charles Turner Quiller, M.R.C.S., of a son.

SHARP.—On August 2nd, at Bagdale, Whitby, the wife of Arthur J. Sharp, M.D., F.R.C.S., of a daughter.

STABLES.—On August 2nd, at Ashby-de-la-Zouch, the wife of W. W. G. Stables, M.R.C.S., &c., of a son.

MARRIAGES.

BERRY—BRIGHOUSE.—On August 7th, 1900, at the parish church, Ormskirk, by the Rev. John Williams, M.A., curate of All Saints', Southport, assisted by the Rev. J. E. Woodrow, vicar of Ormskirk, and the Rev. J. F. Hogg-Goggin, rector of Rufford, Richard James Arthur Berry, M.D., F.R.S., F.R.C.S. Edin., to Beatrice Catherine, eldest daughter of Samuel Brighouse, Esq., solicitor, and Coroner for South-west Lancashire.

EDWARDS—JACKSON.—On July 31st, at the parish church, Reigate, Francis Henry Edwards, M.D., M.R.C.P., eldest son of Francis C. Edwards, of Blackheath, to Eleanor Margaret (Daisy), younger daughter of Geo. Jackson, of Reigate.

HUNT—EDGELL.—On Aug. 1st, at the Church of St. Nicholas, Bromham, Wiltshire, William Alfred Hunt, M.R.C.S., L.R.C.P., only son of William Hunt, Pen Villa, Yeovil, to Helen Julia, youngest daughter of the Rev. E. B. Edgell, J.P., rector of Bromham.

REISSMANN—BIRKS.—On July 31st, at Knutsford, Glenelg, South Australia, Charles Reissmann, M.A., M.B., B.Sc., of Wahroonga, New South Wales, to Edith Vause, third daughter of Charles Birks, of Glenelg, S.A.

DEATHS.

SPITTA.—On Aug. 2nd, at Clapham Common, S.W., Robert John Spitta, M.D. Lond., in his 81st year.

STUART.—On Aug. 4th, at Gloucester-terrace, W., William Johnston Stuart, Surgeon-Major (retired) H.M. Bombay Army, aged 81.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

WHAT IS "PROPER LODGING" UNDER THE PUBLIC HEALTH ACT?"

To the Editors of THE LANCET.

SIRS,—I am advising my council to provide isolation accommodation for a large mining district with a population of about 14,000. The miners principally live in three or four-roomed cottages (in some cases five rooms) in rows or terraces. Sec. 124 P. H. Act, 1875, says: "Any person suffering from any dangerous infectious disorder and is without proper lodging or accommodation" may be removed to such hospital. What is meant by "without proper lodging and accommodation"? If the child or a person living in the house of one of these colliers is taken ill with infectious disease (diphtheria, enteric fever, &c.), is the child without proper accommodation, and could we have the power to remove it? In the case of a "lodger" in one of these houses I presume there would be no difficulty. I should be glad if you would kindly deal with the question in one of your issues. I feel that unless we have more power than the Public Health Act gives us the hospital would not be in use half the time.

I am, Sirs, yours faithfully,

August 4th, 1900. MEDICAL OFFICER OF HEALTH.

* * The question shall have our attention.—ED. L.

THE DUNMOW FLITCH.

AT the annual Dunmow Flitch celebration which took place in the presence of a crowd of holiday-makers on August 6th, the first claimants were Mr. and Mrs. Evelyn John Evatt of Newcastle-on-Tyne. Mr. Evatt is said by the newspapers to be a medical student. When the matrimonial affairs of a medical student attract the attention of the press it is so generally because of their painful nature that we are bound to congratulate Mr. Evatt upon a publicity that has its origin in his conjugal happiness.

THE FIRST GENERAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT IPSWICH.

To the Editors of THE LANCET.

SIRS,—In your doubtless very hurried report of the first general meeting of the British Medical Association in Ipswich you insert the lines: "that THE LANCET *plébiscite* showed plainly that the feeling of the profession was against the Midwives Bill, and Mr. D. O'Sullivan." This is on p. 357, left-hand column, lines 29-30. Please note comma after Midwives Bill. There is no sense in the paragraph. And why my name was introduced I cannot understand, as any remarks I made were agreed with by the great majority of the meeting. The report also at the top of the page (same column) shows a first line which is foreign to Dr. Saundby's remarks and is evidently interpolated by carelessness. I feel that I am placed in an invidious position by the introduction of my name in the manner indicated.

I am, Sirs yours faithfully,

Southport, August 7th, 1900. DANIEL A. O'SULLIVAN.

*** We fail to see anything invidious in our report. If Mr. O'Sullivan will read the report carefully he will see that we said that he was one of the principal speakers during a certain portion of the general meeting, and it is a fact that he was so. Leaving out parenthetical clauses, the paragraph reads: "the principal speakers being Dr. Brassey Brierley, Dr. J. Haddon, Dr. A. Cox, and Mr. D. O'Sullivan."—ED. L.

"DRESSERS" FOR KUMASI.

To the Editors of THE LANCET.

SIRS,—I had occasion some two or three weeks ago to call attention to the parsimony of the Colonial Office in its attempt to obtain medical officers for an expedition to Kumasi. Whether it failed to obtain an adequate supply of qualified men for the totally inadequate remuneration offered I am not aware; but this week in your columns and in the columns of a contemporary appears an advertisement asking for "dressers." These "dressers" are offered pay at the rate of £20 a month *plus* an allowance of 5*s.* per diem, with privileges as regards passage, rations, and gratuity similar to those of the previously-advertised-for medical officer. This offer to the unqualified "dresser" appears to be as liberal as the offer to the qualified man was illiberal; the difference in the value of the services of the qualified and registered (£30 a month and no allowance) and the unqualified and unregistered (£20 a month *plus* 5*s.* a day allowance) candidate being if the estimate of the Colonial Office is to be accepted, only some £2 10*s.* or £2 15*s.* per mensem. It was rumoured that some senior students and dressers who volunteered for service in South Africa were told off to scrub floors and clean "quarters." I do not think that these "dressers" need fear that their services will be so little appreciated, they will probably find themselves in positions of considerable responsibility. The circumstances of the case rather favour the suspicion that the previous request for medical officers at the small salary offered having elicited no very fervid response the authorities contemplate employing unqualified men under the guise of "dressers." The remuneration offered to these "dresser" candidates is ample though not extravagant, and while some "chronics" may be tempted to respond I doubt if any genuine "dresser" or "clerk" with any prospects will care to delay his curriculum and cast his chances into such a fatal lottery as a West Coast expedition.

I am, Sirs, yours faithfully,

Aug. 6th, 1900. CANTAB.

AN IMPROVED CYCLE AND MOTOR-CAR LAMP.

OUR attention has been drawn to an improved cycle and motor-car lamp which, if generally in use, would do much to prevent accidents and reduce the strain upon the nerves which accrues from riding at night. Medical men who use the cycle for night calls would find increased comfort from the use of the lamp, for there is practically no danger of being run down from behind, while the rider is able to see his pedals for mounting. The improvement is extremely simple and consists in affixing at each side of the lamp a glass prism placed in an oblique direction from above downward and forward. One of the faces of the prism is almost at right angles to the side of the lamp and throws a beam of light backward and downward. Mr. John Cassels of 76, Hall-street, Stockport, is the inventor and the lamps are sold in two qualities, at the prices of 6*s.* and 15*s.*, the high-priced lamp being an excellent production of the lamp-maker's art.

A BUST OF SIR RICHARD OWEN.

To the Editors of THE LANCET.

SIRS,—Can you kindly advise me where a bust of Sir Richard Owen would be likely to be purchased? The original was executed by the late Mr. Hodges Baily, R.A., who executed Nelson's monument on the column in Trafalgar-square, I believe, and the bust in plaster is from the original, and is the work of Mr. Baily also. It is in the possession of his granddaughters, ladies in very poor circumstances. They would accept £10 10*s.* for it—at which price, I believe, a similar bust has been previously sold. Being in Ipswich for the annual meeting of the British Medical Association has enabled me to inspect the bust, which is life-size and in good condition. It is on their behalf that I venture to ask your kind assistance in disposing of the bust, which might be much valued by a public institution.—I am, Sirs, yours faithfully,

EDGAR DUKE, M.D. Durh.

11, Wilbury-road, Hove, August 3rd, 1900.

AUTO-INTOXICATION IN PREGNANCY.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if any of your readers could give me any references to literature dealing with this subject. I know Bouchard's book and also some of the more recent papers on eclampsia. I wish particularly to find an account more full than that given in ordinary obstetric text-books of the increases in tissue metabolism due to the incidence and presence of pregnancy. Trusting to receive some little assistance in the matter.—I am, Sirs, yours faithfully,

July 28th, 1900. M.A., M.B.

THE ABSORPTION OF IRON.

To the Editors of THE LANCET.

SIRS,—Several interesting experiments have, I understand, recently been made illustrative of the fact that iron is absorbed by the blood-vessels of the duodenal villi. Quincke has fed mice with cheese containing iron and has traced its course as far as the duodenum, where he found it was absorbed. I shall esteem it a favour if you can inform me of any other experiment bearing on the subject. Do you hold that these experiments prove that iron is actually absorbed in the duodenum? Again, are the organic salts of iron only, or are the inorganic salts equally well absorbed? The inorganic salts, such as ferrous carbonate (Blaud), have undoubtedly given good results in the treatment of anæmia; is there any evidence that quicker improvement has taken place when the organic salts, such as the peptonated iron and manganese, have been exhibited?

I am, Sirs, yours faithfully,

HERBERT HART, Medical Superintendent.

International Headquarters of the Salvation Army, Queen Victoria-street, July 24th, 1900.

*** We are not aware that the theory that iron is actually absorbed in the duodenum has been generally accepted. Reduced iron has been shown (Quevenne) to be most readily absorbed. We publish the letter so that replies may be elicited from those who have made recent observations on the absorption of iron into the general circulation.—ED. L.

M.R.C.S., L.R.C.P.—Dr. William Munk's "Roll of the Royal College of Physicians"—the preliminary passages and the careers of Chambre and Linacre; and Mr. D'Arcy Power's edition of Mr. Flint South's "Memorials of the Craft of Surgery in England" will give the information required. The librarians of the two Colleges will, we are sure, give our correspondent any special information that he may require.

Legal.—The question is so legal that it must be referred to a solicitor. We do not understand if the house in question belongs to our correspondent who desires to grant a lease, or if it is his leasehold

interests which he desires to assign. But, anyhow, he should take proper professional advice.

Mr. H. C. MacQuaie will find the information he desires in the introductory matter of the Medical Directory.

Subscriber.—We cannot find the name of the distributer of the cards in the Medical Directory.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 9th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Aug. 3	29·50	S.W.	0·36	108	69	60	62	61	Raining
,, 4	29·65	N.W.	..	111	69	54	58	55	Cloudy
,, 5	29·70	S.W.	0·10	79	69	52	59	57	Cloudy
,, 6	29·58	S.W.	0·20	72	69	53	58	56	Overcast
,, 7	29·52	W.	0·16	105	68	55	60	57	Cloudy
,, 8	29·83	N.	....	103	65	54	57	56	Overcast
,, 9	29·87	S.W.	....	77	62	56	60	57	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat 2 P.M.), Cancer (2 P.M.)

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (18th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1900, which was completed with the issue of June 30th, and the Title-page to the Volume, were given in THE LANCET of July 7th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1900 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied, Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

During the week marked copies of the following newspapers have been received: *Stockport Advertiser, Gloucester Journal, East Anglian Daily Times, Scotsman, Pioneer Mail, Times of India Citizen, Yorkshire Post, Architect, Builder, Cambridge Daily News, Cardigan Observer, Prescot Weekly Times, Selby Weekly Herald, West Herts Post, Yarmouth Mercury, Liverpool Daily Post, Leeds Mercury, Birmingham Mail, Glasgow Herald, Bristol Mercury, North British Daily Mail, Manchester Guardian, Sanitary Record, Temperance Record, Melbourne Age, Saturday Review, Leicester Daily Post, Bradford Observer, Agnostic Journal, Sheffield Daily Independent, Bristol Times, Nottingham Daily Express, Public Health, King's County Chronicle, Norfolk Standard, Malton Gazette, Nottinghamshire Express, City Press, Local Government Chronicle, Reading Mercury, Hertfordshire Mercury, Mining Journal, Clapham Observer, Local Government Journal, Surrey Advertiser, Public Health, Engineer, Ayrshire Post, Saltburn Times, Court Circular, Chemist and Druggist, Buckingham Express, Suffolk Times and Mercury, &c., &c.*

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Letters, each with enclosure, are also acknowledged from—

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